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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

ESTABLISHED IN 1872

Vol. LXXV. No. 8 NEW YORK AND CHICAGO, AUGUST 24, 1922 { Per Annum, $4.00 / Single Copy, 10 Cents

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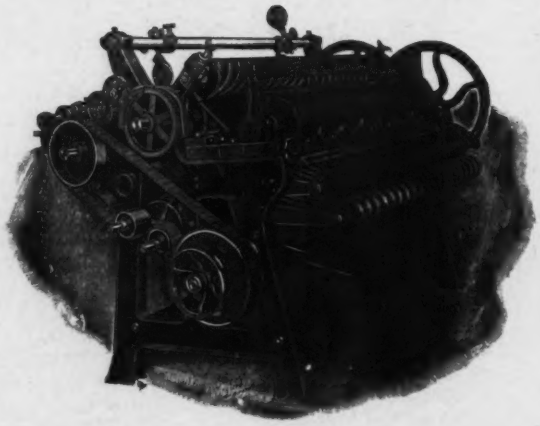
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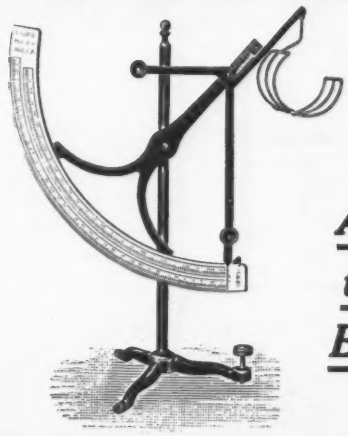

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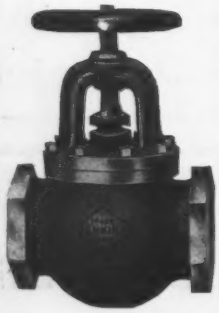

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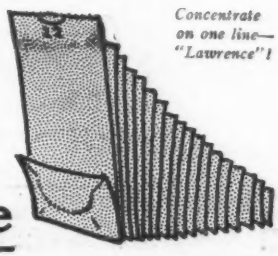

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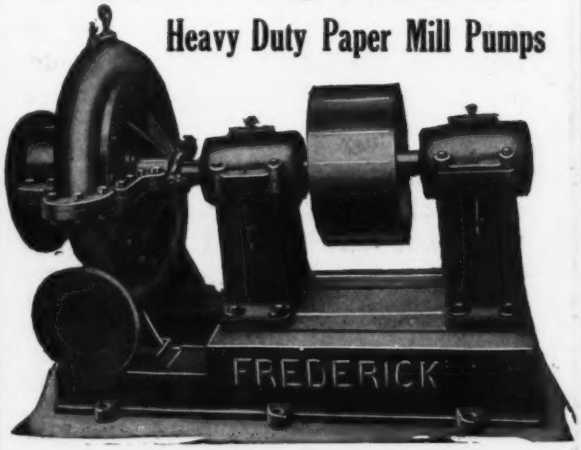

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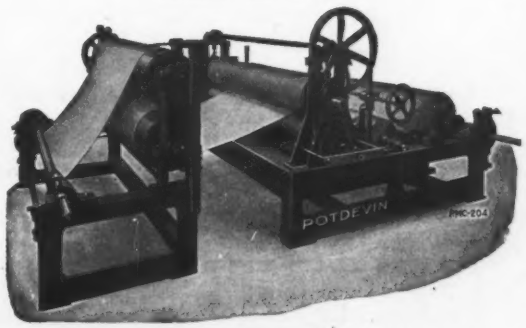

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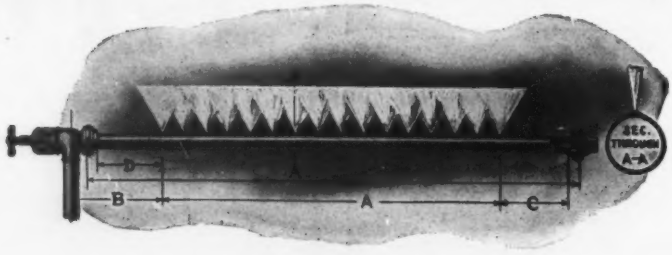

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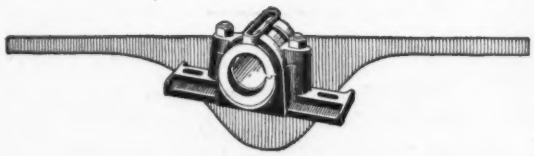

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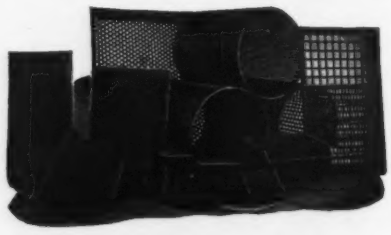

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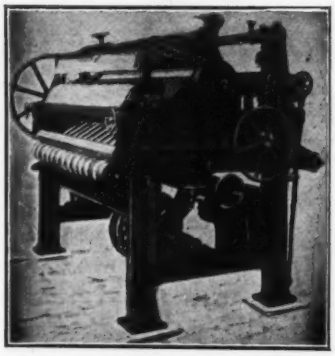

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FIFTY-FIRST YEAR

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XUM

PRODUCTION OF NEWS PRINT DURING THE MONTH OF JULY

According to Figures Just Issued by the Federal Trade Commission the Production of News Print for July of This Year as Compared With July, 1921, Showed an Increase of 28 Per Cent for Total News Print and 30 Per Cent for Total News—The Average Price from Domestic Mills to Publishers During July, 1922, F. O. B. Mill, for Standard News Was $3.540 Per 100 Pounds.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—The following is a tabulation of the reports received by the Federal Trade Commission from domestic manufacturers of news print paper, from jobbers buying and selling news print paper, and from publishers using news print paper. Import and export statistics of the Department of Commerce are also included in the review. Whenever possible, the figures for 1922 are compared with those for the corresponding period of 1921, 1920, 1919 and 1918.

The figures which follow show the results of the Commission's tabulation for June, 1918 to 1922, inclusive:

	Number of mills	Stocks on hand 1st of month Net tons	Production Net tons	Shipments Net tons	Stocks on hand end of month Net tons
Total News Print:					
July, 1922	82	23,367	120,839	123,050	21,156
July, 1921	92	26,629	94,247	95,357	25,519
July, 1920	89	23,990	129,853	131,821	22,022
July, 1919	76	26,115	113,929	118,819	28,225
July, 1918	67	26,161	108,523	109,772	24,912
Total (7 mos.) 1922	..	23,934	810,961	813,759	21,156
Total (7 mos.) 1921	..	24,761	709,695	708,939	25,517
Total (7 mos.) 1920	..	15,369	889,477	882,824	22,022
Total (7 mos.) 1919	..	19,408	785,070	776,253	28,225
Total (7 mos.) 1918	..	31,713	743,377	750,178	24,912
Standard News (Included in Total News Print):					
July, 1922	69	18,078	111,682	113,394	16,366
July, 1921	74	22,104	86,139	87,279	20,964
July, 1920	74	20,976	118,810	120,659	19,127
July, 1919	54	20,023	101,850	98,548	23,325
July, 1918	50	19,812	98,223	99,400	18,635
Total (7 mos.) 1922	..	19,507	754,701	757,942	16,366
Total (7 mos.) 1921	..	19,616	651,721	650,373	20,964
Total (7 mos.) 1920	..	12,338	816,100	809,311	19,127
Total (7 mos.) 1919	..	15,656	711,175	703,506	23,325
Total (7 mos.) 1918	..	26,482	668,361	676,208	18,635

Note—Above figures for total news print do not include hanging paper.

The average production of total news print and standard news, based upon the total combined production for the years 1917 to 1921, inclusive, amounted to 110,000 tons of total news print, and 99,700 tons of standard news, for a period corresponding to July. The actual production for July, 1922, amounted to 120,839 tons of total news print and 111,682 tons of standard news, which, for total news print was 10 per cent above the average for the five-year period, and for standard news 12 per cent above the average.

The production of news print for July, 1922, compared with July, 1921, shows an increase amounting to about 28 per cent for total news print, and 30 per cent for standard news.

The production for July, 1922, compared with July, 1920, shows a decrease of 7 per cent for total news print, and 6 per cent for standard news.

The production for July, 1922, compared with July, 1919, shows an increase of 6 per cent for total news print, and 10 per cent for standard news.

The production for July, 1922, compared with July, 1918, shows an increase of 11 per cent for total news print, and 14 per cent for standard news.

Mill stocks of both total news print and standard news decreased during July, 1922.

Loss of Production

The following tabulation shows idle machine time reported to the Commission for the month of July, 1922. This does not include mills shut down during the entire month:

Reasons	Number of machines	Hours idle
Lack of orders	11	1,637
Repairs	10	324
Other reasons	31	494

Imports and Exports

The imports and exports of printing paper not dutiable (practically all news print) and of wood pulp for the month of June, 1922, compared with the month of June, 1921, were as follows:

	June, 1922, Net tons	June, 1921, Net tons
Imports of news print (total)	84,336	46,220
From Canada	76,068	41,662
Germany	1,725	97
Norway	715	56
Finland	2,256	1,062
Sweden	3,572	2,600
Other Countries	0	743
Exports of news print (total)	2,903	601
To Argentina	603	.....
Japan	212	.....
Cuba	1,220	278
Canada	81	13
Philippine Islands	237	121
Other Countries	550	189
Imports of ground wood pulp (total)	15,951	8,117
Imports of chemical wood pulp (total)	78,931	36,274
Unbleached sulphite	27,639	16,454
Bleached sulphite	16,168	13,020
Unbleached sulphate	34,144	12,122
Bleached sulphate	980	678
Exports of domestic wood pulp	2,167	2,143

The imports of news print for June, 1922, were 38,116 tons more than for June, 1921. The exports for June, 1922, were 2,302 tons more than for June, 1921.

The tonnage to "other countries" under "Exports of News Print" for June, 1922, includes 77 tons to Uruguay, 100 to Mexico, 74 tons to China, and 107 tons to Colombia.

Jobbers' Tonnage

The following tabulation shows the news print tonnage reported by jobbers during the month of July, 1922, compared with July, 1921, 1920, 1919 and 1918, together with commitments to buy and sell:

	On hand first of month Net tons	Received during month Net tons	Shipped during month Net tons	On hand end of month Net tons	Commitments to buy Net tons	Commitments to sell Net tons
Rolls, July, 1922	1,374	10,543	10,499	1,418	21,450	17,830
Rolls, July, 1921	1,587	8,484	8,511	1,560	25,135	25,373
Rolls, July, 1920	2,503	5,976	5,495	2,984	27,547	29,423
Rolls, July, 1919	3,360	3,530	3,603	3,287	42,174	49,176
Rolls, July, 1918	3,396	2,436	2,789	3,043	34,472	36,668
Sheets, July, 1922	3,860	3,042	3,170	3,732	4,519	3,154
Sheets, July, 1921	4,033	2,120	2,218	3,935	5,139	3,864
Sheets, July, 1920	2,814	3,481	3,042	3,253	4,150	3,057
Sheets, July, 1919	6,132	2,726	3,118	5,740	4,384	3,395
Sheets, July, 1918	6,532	3,417	2,817	7,132	6,756	5,384
Total News Print:						
July, 1922	5,234	13,585	13,669	5,150	25,969	20,984
July, 1921	5,620	10,604	10,729	5,495	30,274	29,237
July, 1920	5,317	9,457	8,537	6,237	31,697	32,480
July, 1919	9,492	6,256	6,721	9,027	46,558	52,571
July, 1918	9,928	5,853	5,606	10,175	44,228	42,052

Stocks of rolls in the hands of jobbers at the end of July were 44 tons more than the stocks in the hands of the same jobbers at the beginning of the month. Stocks of sheets were 128 tons less at the end of July than at the beginning of the month. The net decrease in the total stocks of news print in the hands of jobbers at the end of July amounted to 84 tons.

Commitments to buy roll news were 3,620 tons greater than commitments to sell. Commitments to sell sheet news were 1,365 tons less than commitments to buy. Total commitments to sell both rolls and sheets were 4,985 tons less than commitments to buy.

Publishers' Tonnage

Monthly tonnage reports from 694 (a) of the most important newspaper publishing concerns and associations grouped according to the principal business sections of the United States together with a separate tabulation for the agricultural publications, show the following results for July, 1922:

Location of publishers (b)	Number of concerns	On hand first of month Net tons	Received during month Net tons	Used and sold during month Net tons	On hand end of month Net tons	In transit end of month Net tons
New England	80	16,147	16,220	15,373	16,994	1,833
Eastern States	179	49,639	59,080	57,398	51,321	9,947
Northern States	134	40,132	37,215	34,520	42,827	8,712
Southern States	82	9,065	9,734	9,622	9,177	4,524
Middle West	154	28,010	25,058	26,036	27,032	6,738
Pacific Coast	38	17,198	16,052	15,434	17,816	2,267
Farm papers (c)	27	6,194	1,162	1,113	6,243	96
	694	166,385	164,521	159,496	171,410	34,117

(a) This number represents a larger number of publications.

(b) New England includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont; the Eastern States include Delaware, the District of Columbia, Maryland, New Jersey, New York and Pennsylvania; the Northern States include Illinois, Indiana, Michigan and Ohio; the Southern States include Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia; the Middle West includes Arizona, Arkansas, Colorado, Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wisconsin and Wyoming; the Pacific Coast includes California, Oregon and Washington.

(c) The farm papers for the most part use special grades of news print instead of standard news.

Publishers' stocks increased 5,025 tons during the month. Average daily tonnage used during July was 422 tons less than the average used in June.

Publishers' stocks and transit tonnage on July 31st represented 41 days' supply at the existing rate of consumption.

Publishers' and jobbers' total stocks and tonnage in transit on July 31 aggregated 210,677 tons.

The domestic consumption of standard news by metropolitan dailies using between one-half and three-fourths of a million tons annually, for July, 1922, when compared with July, 1921, shows an increase of 14 per cent and an increase of 21 per cent when compared with July, 1920.

The above metropolitan dailies held 59 per cent of the tonnage on hand at the end of the month.

Average Prices Paid by Publishers

The weighted average price of contract deliveries from domestic mills to publishers during July, 1922, f.o.b. mill, in car load lots, for standard news in rolls was $3.54 per 100 pounds. This weighted average is based upon July deliveries of about 40,000 tons on contracts involving a total tonnage of approximately 435,000 tons of undelivered paper manufactured in the United States.

The weighted average contract price based on deliveries from Canadian mills of about 32,000 tons of standard roll news in carload lots, f.o.b. mill, in July, 1922, was $3.476 per 100 pounds. This weighted average is based upon the July deliveries on contracts involving about 152,000 tons of undelivered Canadian paper.

The weighted average market price for July, of standard roll news in carload lots, f.o.b. mill, based upon domestic purchases totaling about 10,000 tons, was $3.551 per 100 pounds.

No Decided Decline in Paper Production

"Despite the usual dullness, there has been no decided decline in paper orders or production," says the monthly review of the paper industry by *The Paper and Pulp Industry*, the official bulletin of the American Paper and Pulp Association. "The orders and production are now above the normal level.

"There is every indication that the fall will show a continuation of the improvement in demand which now has been evident for about eight months. The depletion of the country's coal reserve has greatly increased the cost of fuel of many mills, and is adding materially to the cost of paper. The labor situation has changed very much during the last few months. There are no men looking for employment, and wages have even been advanced in some directions.

"Magazine advertising for the first seven months of the year has averaged 109 per cent of the average of the years 1915, 1916, 1917 and 1918."

Denver to Have $500,000 Paper Mill

DENVER, Col., August 21, 1922.—Actual construction has begun on the Myers Pulp and Paper Company's mill, Denver's newest industry, which is being built, in conjunction with a box factory, on a twenty-acre site north of Denver, near Riverside cemetery on the Brighton road.

The enterprise will involve the expenditure of about $500,000 and when complete will give employment to a large number of workers, with an annual payroll amounting in all to more than $250,000, officials of the company declare.

Besides production of board and container stock, wall board and sheeting papers, which will be manufactured at the mill, the factory will open a market for the sale of low-grade waste paper in Denver.

The Myers Pulp and Paper Company determined on Denver as the location for the new mill after a careful survey of conditions and the market in the Rocky Mountain district.

Besides the products made from the low grade waste paper collected, the mill expects to manufacture products from wood pulp taken from its own timber limits along the Moffat road.

At the start the plant will manufacture 15,000 tons of paper products annually, but the mill will have a capacity of 30,000 tons with additional buildings.

With the mill will be erected a box factory—a Denver concern—to cost $35,000 for each of three units, which will absorb the entire products of the new paper plant temporarily.

Power contracts have been closed by the new mill for a 10-year period, and the plant will be equipped with the most modern electrically driven machinery.

Six buildings will comprise the paper mill. The pulp mill and beating room will be a two-story structure, 164 by 128 feet, while the paper machine room will be two stories, 42 feet wide by 256 feet long. The wood room will be of two stories, 47 feet wide and 84 feet long. The boiler and engine building will be two stories, 47 feet wide and 84 feet long. The laminating room will be one story, 30 feet wide and 174 feet long. The finishing room will be one story, 64 feet wide and 84 feet long.

The box factory will be a one-story brick structure for each of its three units. Each building will be 48 feet wide and 80 feet long.

The water works system to supply the mill will necessitate a tank 125 feet high with 50,000 gallons capacity. Each of the main buildings will be of concrete with concrete floors and steel crust roofs.

The paper mill expects to supply employment to seventy-five workers from the start, while a force of twenty-five men will be required daily at the box factory. The wood operations in the Colorado timber district will furnish jobs to a score of other workers.

Officers and directors of the Myers Pulp and Paper Company are Charles B. Myers, of Chicago, president; A. E. Millington, who recently moved his family to Denver from Milwaukee, vice-president; Wilbur F. Denious, of Denver, secretary and treasurer; C. R. Rudy, of Denver, sales manager and director, and Thomas F. Carey, of Chicago, director.

Quantities of Pulpwood Arriving at Bath

[FROM OUR REGULAR CORRESPONDENT]

BATH, Me., August 21, 1922.—Bath is again a center of pulpwood loading activities, the Pejepscot Paper Company having re-established its discharging station here, following the destruction by fire of the plant at Belfast. The pulpwood is brought here from the Canadian provinces, where the Pejepscot Company owns timberlands, and is transferred to freight cars at the wharves here and then shipped to Pejepscot for consumption in the paper mill. War conditions forced the Pejepscot Company to leave Bath a few years ago to locate at Belfast, but with the return of normal wages and the loss by fire of the Belfast plant, the company again located in Bath, which is nearer its mill. Great quantities of pulpwood have been arriving of late, crews now working 24 hours a day.

XUM

CHANGE WOOD PULP CLAUSES NOT TO ANTAGONIZE CANADA

At Instance of Senator Oddie Paragraphs Are Stricken Out in New Tariff Bill Which He States Would Not Improve the Situation—Purpose of Giving Free Entry to the United States of News Print and Wood Pulp, He Declares Is to Protect the American Consumer of These Commodities Against the Deficiency in the Domestic Production—May Make Change Later.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—The Senate, in passing the tariff bill last week, at the instance of Senator Oddie, of Nevada, struck out the proviso in paragraph 1610 devoted to mechanical groundwood pulp, and paragraph 1659, which is the standard news print paragraph. These paragraphs, as they were finally passed by the Senate, now read:

"Par. 1610. Mechanically groundwood pulp, chemical wood pulp, unbleached or bleached, including pulp board in rolls, for use in the manufacture of wall board."

"Par. 1659. Standard news print paper."

It is understood, of course, that both of these paragraphs are contained in the free list of the bill. The changes in these two paragraphs were made with the approval of the majority of the Finance Committee, and action was taken on them without roll call.

Senator Oddie also sought to have rotogravure paper, such as is used in the picture sections of Sunday editions of metropolitan papers, placed on the free list, but his amendment was rejected without a roll call.

In striking out the provisos of these two paragraphs, Senator McCumber, chairman of the Finance Committee, called attention to the fact that this matter could be taken up in conference, and it is possible that a change will be made when the bill is finally passed into law.

Would Unnecessarily Antagonize Canada

In discussing his amendment, Senator Oddie said that it modified the language adopted by the House by striking out the "imposition of a 10 per cent ad valorem duty, which might be imposed in case a foreign country forbids or restricts exportation." In taking this matter up further, Senator Oddie said:

"The manufacturers in the United States are able to obtain their wood from the freehold lands of Canada only, but are prevented from obtaining any wood from the so-called crown lands, which are comparable to our public lands, for the reason that Canada has adopted a very strict policy with regard to the cutting of timber from the crown lands in three of her Provinces, just as the United States has adopted policies restricting the exploitation of its timber, mineral and oil lands.

"The imposition, therefore, of a 10 per cent ad valorem duty on items which have been made the subject of regulation by law or otherwise by the Canadian Government would, it is feared, unnecessarily antagonize Canada, without in the slightest affecting the situation, which would result in the imposition of a flat duty of 10 per cent ad valorem on all news print paper, mechanically groundwood pulp, and chemical wood pulp.

"The effect of these amendments is to remove the 10 per cent penalty which, if allowed to remain, will positively nullify the action of the Senate in placing news print paper and its component elements on the free list. However, it leaves a retaliatory clause which protects the American producer and consumer against any export duty or other export charge which might be imposed.

"I will state, Mr. President, that when Congress placed these items on the free list, in the face of conditions existing today, it showed its intention to keep them on the free list, and this rider in the form of a retaliatory clause, which ipso facto, has the effect of taking them off the free list, should be eliminated, and my amendments eliminate it.

Protection Against Deficiency in Production Here

"The purpose of giving free entry to the United States of news print paper and wood pulp from Canada is to protect the American consumers of these commodities against the deficiency in the domestic production. To impose the prescribed retaliatory duty would be inconsistent with this object and only result in aggravating the shortage and in increasing the cost to American consumers of news print and pulp, both domestic and imported.

"The Canadian regulations, at which these clauses appear to be aimed, are based upon economic necessities of the Dominion of Canada and are not the result in any degree of commercial antagonism to the United States.

"If, therefore, the United States has a substantial basis on which to seek the abrogation of the embargo it would be better to proceed by negotiation rather than by coercive measures, since there is nothing in the history of Canadian trade policy to lend support to the suggestion that Canada will yield under duress what it will not yield voluntarily.

"It is quite obvious that the retaliatory clauses would become mandatory in their operation whenever any action on the part of the President should be evoked, and as such are tantamount to fixing a flat duty of 10 per cent ad valorem upon news print paper and mechanical and chemical wood pulp, thereby nullifying the intent of the Senate that these commodities are entitled to a free entry on their merits.'"

Duty In Paper and Wallboard

The Senate in passing the tariff bill last week inserted a new paragraph in connection with paper and wall board. Paragraph 1302 as it finally passed, reads as follows:

"Par. 1302. Paper board, and pulpboard, including cardboard, and leather board or compress leather, not laminated, glazed, coated, lined, embossed, printed, decorated or ornamented in any manner, nor cut into shapes for boxes or other articles and not specially provided for, 5 per centum ad valorem, pulpboard in rolls, for use in the manufacture of wallboard: Provided, That for the purposes of this act any of the foregoing less than nine one-thousandths of an inch in thickness shall be deemed to be paper; sheathing paper, roofing paper, deadening felt, sheathing felt, roofing felt or felt roofing, whether or not saturated or coated, 10 per centum ad valorem.

"If any country, dependency, Province, or other subdivision of government imposes a duty on any article specified in this paragraph when imported from the United States in excess of the duty herein provided, there shall be imposed upon such article, when imported either directly or indirectly from such country, dependency, Province, or other subdivision of government, a duty equal to that imposed by such country, dependency, Province, or other subdivision of government on such article imported from the United States."

I. V. Sutphin Paper Co. Damaged by Fire

[FROM OUR REGULAR CORRESPONDENT]

ATLANTA, Ga., August 19, 1922.—Sparks from passing locomotives was given as the cause of the fire which caused $50,000 damage to the I. V. Sutphin Paper Company, 476 Whitehall street, last week.

The building was so badly damaged that only the lower floor could be used, but the company announced that business was being conducted as usual.

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A. J. PAGEL & CO., Inc.

347 Madison Avenue New York City

UNCERTAIN CONDITIONS IN THE PHILADELPHIA MARKET

In Spite of All the Disturbing Factors, However, a Trend Toward More Active Buying Is Noticed—While Prices Generally Are Stiffening and in Some Cases Increasing a Reduction Is Announced on a Representative Line of Kraft—Mills Are Increasingly Being Handicapped by the Coal Shortage—Franklin Paper Co. to Improve Five-Story Warehouse at 902 Locust Street Recently Purchased.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., August 22, 1922.—Trade conditions in both the fine and the wrapping paper divisions in Philadelphia during the past week of continuously sultry weather and with the vacation period at its height, were as varying and uncertain as the labor situation in coal mines and on railroad lines, on both of which they were in part dependent. But through it all there was in the entire paper trade a trend towards better buying in the sense both of more orders and of larger ones just as there was in the labor negotiations a more definite movement towards peace.

An Anomalous Condition

The trade noted a rather anomalous condition with regard to prices as they were quoted by the mills. On the one hand there was the recession in quotation of a mill regarded as the dominant factor in the kraft situation, while on the other hand there continued to come withdrawal of prices, notices that orders for future delivery preferably would not be taken at this time and that on a larger number of grades than ever before business was taken on the basis of a price to be determined at the time of delivery. The trade looks upon the No. 1 Kraft as a fundamental and it was rather difficult to reconcile lowering prices on such a basic grade as this with increasing prices—or at least increasing price tendency—on the other grades. A majority of those who attempted to reconcile the apparently contradictory conditions took the view that there was in the paper situation the same uncertainty and perhaps proclivities to gamble, as were manifesting themselves in other lines. The general conviction, however, is that rightly or wrongly most of the fine paper quotations will move upwards and that those of the coarser grades will at the very least be steady for some time to come. The market for the better grades of printing papers became a little more active during the week although there still remains large room for improvement, but the coarse paper situation virtually was without change. Mill demands continued steady to firm for all grades of stock with the continued exception of hard white and was quite active for the special grade of container stock made up in this market, the prevailing price of which was 1.15 or better.

Production Varies

Paper production, and board as well, in the local mills, varied greatly and in direct proportion to the amount of coal actually in the bins or on the cars or of certain delivery. The largest producer, the Philadelphia Paper Manufacturing Company in Manayunk, continued at the limit of production when coal supplies were ample, and when shortage was threatened diverted its force of employees towards the piling up of stock, veritable mountains of which are now on the premises. Close down, but only temporarily, of some of the other mills was necessitated not by lack of orders, but by conservation of power because of fear of the future. However, toward the close of the week when there was apparent the likelihood of any early termination of the strikes in the mines and the impairment of railroad traffic, the wheels went around again at the old rate.

On Auto Tour of the U. S.

R. P. Wood, recently connected with the Service Department of the Philadelphia office of the American Writing Paper Company in the Bourse, and who with Mrs. Wood and two friends lately set out on a two-year automobile lecture trip on paper making, printing salesmanship and allied matters, has just made the first report of progress. The letter was dated at Lansdale, Pa., and in it Mr. Wood briefly referred to his automobile and particularly the trailer on which he has painted in large letters this inscription, "U.—N. V.—U. S.," "On our way on a two-year tour of the United States." Mr. Wood gave as his general itinerary, Albany, Rochester, Cleveland, Chicago, then south into Texas for the winter, proceeding through New Mexico, Arizona, and California, thence up to Seattle and on to British Columbia, returning by way of Minneapolis back into the Southland, and finally in the spring of 1924 through the central States and thence across into New England, and finally two years hence "Back to Home in Philadelphia." Mr. Wood announced that he could be addressed up until September 10 in care of the Cleveland Lodge, Cleveland, Ohio, of the Order of Elks.

Coal Shortage Closes Mills

The mills of the E. T. Garrett Company and of Edwin Garrett, both operating, but independently on tissues, have been closed down on account of coal shortage for an undetermined period.

Franklin Paper Co. to Build

The Franklin Paper Company now located at 1001 Market street, shortly will begin reconstruction and extension of the five-story building at 902 Locust street, which it recently purchased, involving an expenditure of about $10,000 for the reconstruction work. It hopes to be an occupant for both its offices and its warehouses by December 1.

General News of the Trade

The Reading Mill of the Reading Paper Mills Company, whose offices are at 308 Chestnut street, has been running intermittently because of the coal shortage, but at the close of the week was in full operation on its special line of high-grade rag book with private water mark on order from publisher. The work force of the Tulpehocker rope mill is being gathered together for early resumption of production after the close down of almost a year.

John K. Mohr, formerly manager of the Reading Paper Mills, but now engaged in his own business with offices in the Liberty Building, is on a tour of Europe, accompanied by Mr. and Mrs. Norman McLeod.

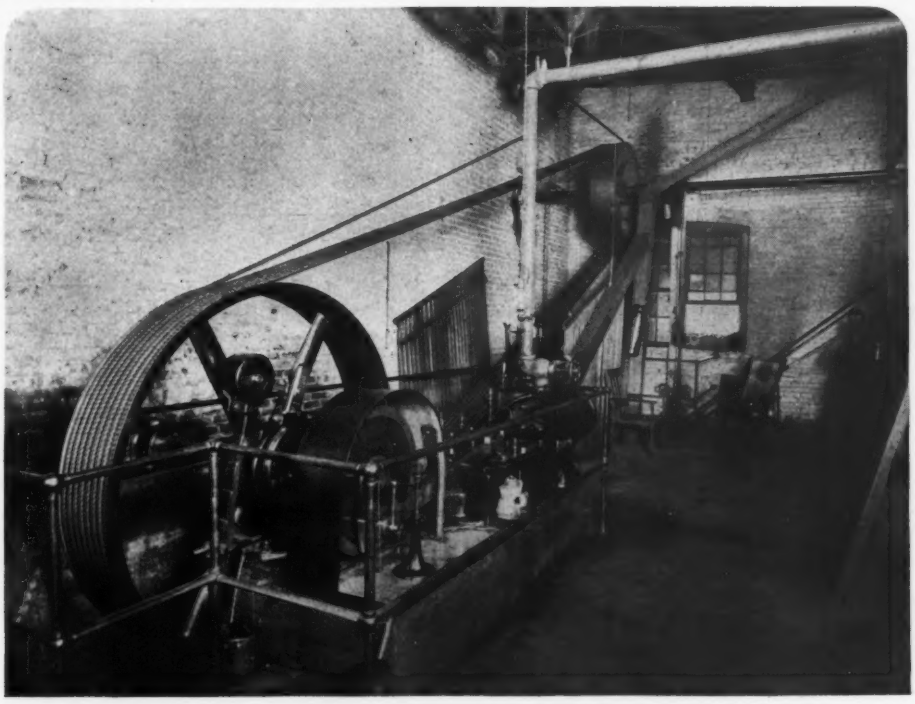
President Edward D. Hemingway, of the Hemingway Company, is with Mrs. Hemingway in camp at Coopers, Maine, where he will remain until the close of next month.

Thomas F. Simmons, of John Simmons' Sons, left during the week on an automobile vacation trip with the Poconos as his immediate objective, but the thereafter not determined on.

President Norbert A. Considine, of the Paper House of Pennsylvania, left the city during the week for a vacation rest in Ocean City.

The Beck Paper Company during the week made an attractive display illustrating the printing and lithographing possibilities in black and in color of the Beck Half-tone Blanks, made by the Falulah Paper Company.

The Universal Waste Products Company, packers of paper stock exclusively on a large acreage at 25th and Callowhill streets, is seeking a new location and preferably one on a river front, because the site of 2½ acres it now occupies shortly will be required by the City for development purposes in connection with the forthcoming Phiadelphia Sesqui-Centennial celebration. Superintendent William G. Biles has secured options on several sites and decision shortly will be reached.



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RED WHITE BLUE — GUARANTEED ROPE MADE BY COLUMBIAN ROPE CO., AUBURN, N.Y. — ASK FOR "COLUMBIAN" TRADE MARKED ROPE — RED WHITE BLUE

SUMMER QUIETUDE PERIOD IN TORONTO PAPER MARKET

August Has Been the Quietest Month This Year But Active Resumption Is Looked for Early in August—Heavy Demand Continues for News Print Which Is Said to Be None Too Plentiful—Busy Season in Pulpwood Cutting Expected to Start in Northern Ontario Soon—Good Progress Being Made on the Sub-Structure of the New Plant for the Fort William Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 21, 1922.—August has been the quietest month of the year in the paper trade so far as the jobbing trade is concerned. Many members are still away on their holidays and will not return until the first week in September, when the big Canadian National Exhibition will be in progress. This event generally brings to Toronto many buyers from various parts of Ontario and orders are frequently placed for large consignments of paper to meet fall demands. The printing trade is also feeling the effect of the present quiet period.

Some paper mills are running pretty nearly to capacity, but there has been a noticeable slackening down in others. Whether the mills will have a busy season this fall or not depends upon an early settlement of the coal strike, the resumption of regular transportation facilities and the availability of cars. Certain mills have only a few weeks' supply of coal on hand and are getting rather anxious concerning the future.

A redeeming feature of the whole situation is that the demand for news print keeps up actively. News, according to some producers, is not any too plentiful. Whether prices will be advanced during the next few weeks in accordance with the trend of quotations on the American side, is not definitely known. Generally speaking, however, the Canadian situation is closely allied to that across the border. It may be depended upon, however, that there will not be any reduction in the present contract rate of $70.00 per ton, when the matter of new quotations comes up at the end of next month.

Book papers have sagged somewhat in value and some mills are quoting a cent a pound less than they did a month ago. Bond papers remain unchanged, but there is a slightly upward tendency in the higher quality lines.

The paper box trade has developed considerably during the past few weeks and most plants are now running pretty well up to capacity. A fair volume of business is reported by manufacturing stationers. In the rag and paper stock market there is a good call for most lines, especially for No. 1 white shirt cuttings.

Busy Time in Building Papers

The active building campaign, particularly in the house line, that has been going on all summer, has reflected itself in a steady demand for sheathing papers of all kinds. The Strathcona Paper Company, of Strathcona, Ontario, report that it is running full time on building and board lines. It has been making alterations to its plant during the past summer in order to be in a position to take care of any increases that come along when business really gets settled down to normal.

Pulpwood Cutting Will be Active

It is expected that there will be considerable activity in Northern Ontario pulpwood cutting during the next few weeks. The Ontario Paper Company, of Thorold, which recently acquired some valuable limits from the Potter Lumber Company, of Matheson, intend getting out 15,000 cords of pulpwood on the newly acquired land and will erect a cutting up and rossing mill at that point.

The Hawk Lake Lumber Company, of Monteith, Ontario, which is also concerned in the recent deal with the Potter Lumber Company, intends cutting about 40,000 cords of wood this season, which will be rossed. The company will erect a rossing plant at Wasach at mileage 208, on the Timiskaming and Northern Ontario Railway, during the coming spring which will have a capacity of 20,000 cords rossed.

Introduction of Long Price List

An arrangement has been concluded between the Toronto Typothetæ and the wholesale paper dealers of Toronto whereby the long price list will go into effect early next month. This list practically acknowledges the printer as a retailer of paper. The items covered by the retail list are: Commercial printing papers for manufacture or re-sale; envelopes in less than case lots; job lots and seconds. Lists issued by the jobber will quote a price 25 per cent above the net wholesale price and retailers will be given a discount of 20 per cent from the retail price list.

Good Progress on New Paper Mill

The work of driving the last of the twenty-one hundred concrete piles for the new paper mill of the Fort William Paper Company at the Mission site, Fort William, has been completed and the concrete foundation walls are now going up. About two hundred men are employed on construction, which is being carried out under the direction of the company's own engineers. It is expected that the buildings will be ready for the installation of the machinery late this fall and the paper making machines will be put in during the winter.

Rolling Stock for New Abitibi Line

The first of the rolling stock for the Abitibi Railway and Navigation Company recently arrived in the shape of twelve flat cars for hauling logs and pulpwood. The cars are the regulation length and fitted with all safety devices. Some of them are already in use. The railway line, which is being built by the Abitibi Power and Paper Company from Iroquois Falls to Hughes, will greatly assist the company in the hauling of pulpwood, supplies for the mill, etc.

Fifty Years with Toronto Paper Firm

An interesting event took place at the office of Warwick Brothers & Rutter, manufacturing stationers, King street West, Toronto, last week when Thomas Barff completed fifty years of service with the firm. He was presented with an address and a well-filled purse. Mention was made of the fact that Mr. Barff was the only member of the staff who knew the late William Warwick, the founder of the business.

Toronto Paper Firm's Unique Publicity

Some unique advertising is being done by the Victoria Paper and Twine Company, Toronto, which is sending out to its customers a neat card, suitable for hanging on office walls. Each card contains a timely and forceful article on such themes as "Loyalty," "Freedom," "Patriotism," "Co-operation," "Discipline," etc.

Notes and Jottings of the Trade

Walter S. Boyd, sales manager of the Deerfield Valley Paper Company, Munroe Bridge, Massachusetts, was in Toronto recently calling upon the trade. He was formerly sales manager for Price Brothers & Co., of Quebec.

G. R. Warwick, A. F. Rutter, H. C. Hood, and William Warwick, who constitute the executive staff of Warwick Brothers & Rutter, manufacturing stationers, Toronto, have returned from a holiday trip made by motor through New York State.

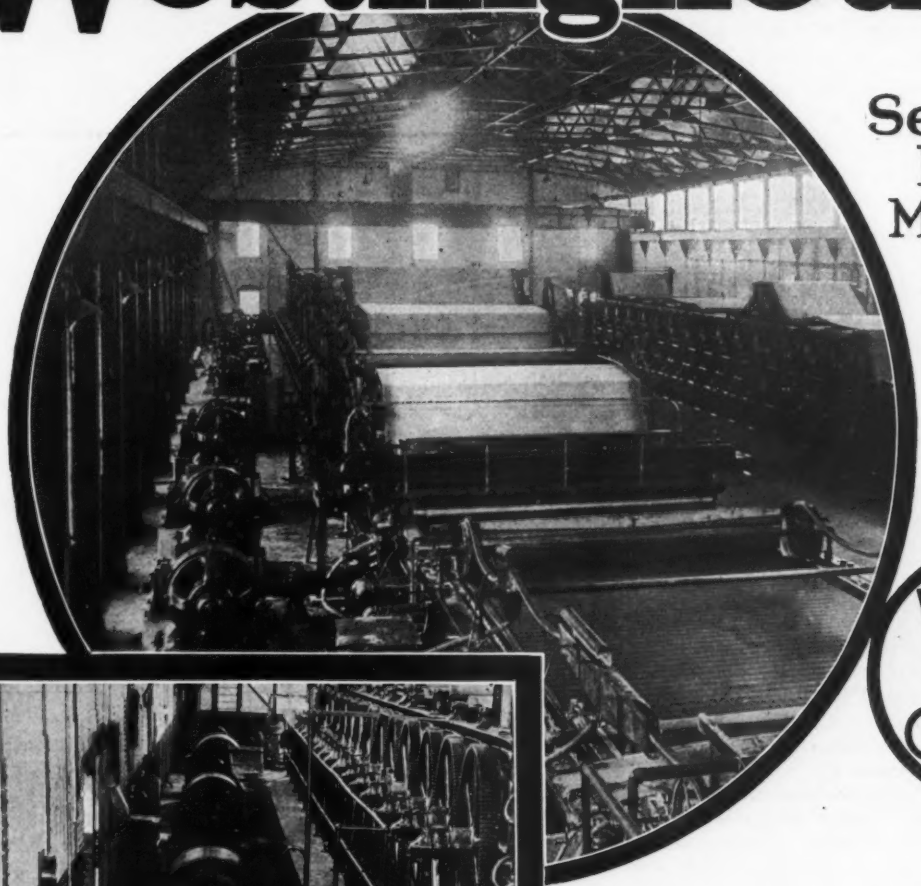
Col. Thomas Gibson, vice-president of the Spanish River Pulp and Paper Mills, Limited, Toronto, was in Sault Ste. Marie during the past week in company with several directors of the Lake Superior Corporation. The various plants were insepcted.

Charles V. Syrett, manager of the Victoria Paper and Twine Company, and Mrs. Syrett, Toronto, have returned from a holiday trip to Montreal and other points East.

Edward Newell, who is head of the Dominion Envelope and Car-

(*Continued on page 24*)

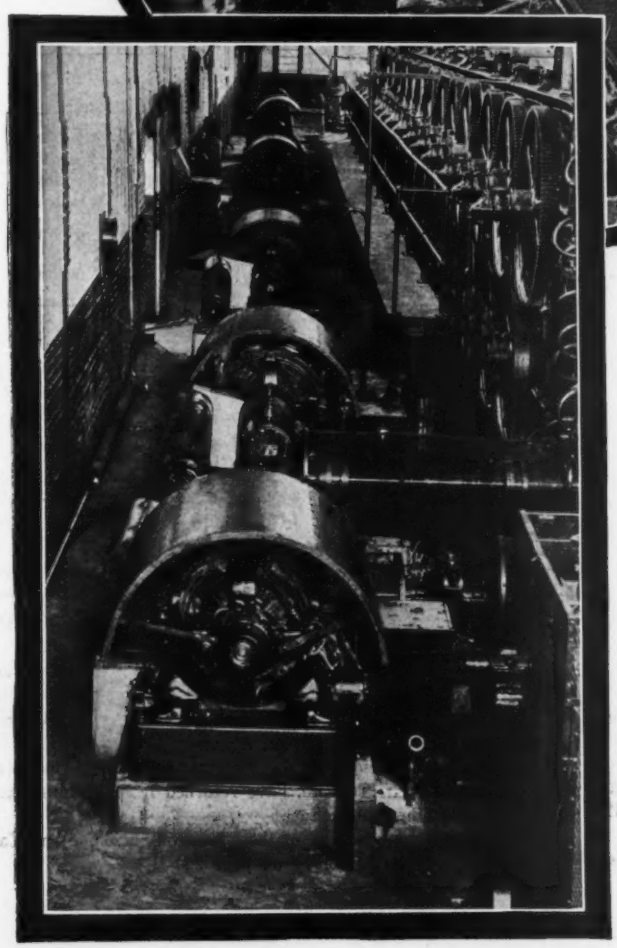
Westinghouse



Sectional Paper Machine Drive

98 and 166-inch Pusey & Jones Fourdrinier Book Machines, 250 to 500 feet per minute.

98-inch Machine Started July 25 and the 166-inch. Oct. 22, 1921.



West Virginia Pulp & Paper Co.

The Westinghouse Sectional Paper Machine Drives in the Tyrone (Pa.) mill of the West Virginia Pulp and Paper Company have been in service about ten months.

The performance of this, and similar installations, recommends Westinghouse Sectional Paper — Machine Drive to the consideration of all paper manufacturers.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

Sales Offices in All Principal American Cities

XUM

SOME MILLS IN MIDDLE WEST CLOSED BY COAL SHORTAGE

Grave Concern Is Expressed as to How the Fuel Situation That Is Likely to Arise in the Next Few Weeks Is to Be Met—Otherwise Prospects Are Excellent for a Big Fall Trade—Colter Rule, Manager, and W. E. Scott, Assistant Manager of the Whitaker Paper Co., Resign and Are Succeeded by F. H. Alling and C. H. Runyan—Other News of the Chicago Paper Trade.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, August 19, 1922.—Though the coal situation has taken a different aspect during the past few days there is much excited anticipation among the paper men as to how the coal shortage is to be met. Some mills have closed up because of lack of coal and some mills in the Northern and Middle West sections are burning a mixture of wood and coal. Reports are prevalent in paper offices that coal will last but a scant two to three weeks at the very longest.

The many kinds of paper products have gone up considerable in the last forty-eight hours and buyers of large amounts of paper are expecting higher prices within the next ten days.

Paper salesmen reply that orders have been considerably delayed because of the railroad strike, but look forward to a settlement within the next two weeks. Orders are being received in large quantities.

Whitaker Paper Co. Changes

The Whitaker Paper Company, 212-220 North Sangamon street, announced several changes in the firm which have taken effect during the past month. Colter Rule, manager, and W. E. Scott, assistant manager, have resigned and their resignations have been accepted by the company. These two men have been with the company for some time and are well known to the trade in the Middle West. F. H. Alling, formerly general manager of the bag departments of the company's Western divisions, has been elected manager. C. H. Runyan, of the Whitaker company, has been selected as assistant manager. Mr. Runyan has been with the Whitaker company for about two years, having held the position of salesmanager in several other companies of the Middle West before coming to the latter one.

General News of the Chicago Trade

A. P. Story, treasurer of the Chillicothe Paper Company, Chillicothe, Ohio, transacted business in Chicago on August 15. Mr. Story said that all the mills were running to full capacity and would be able to do so for a considerable time.

Miss B. A. Dauback, of the Forsythe Paper Company, is spending three weeks vacation traveling in the East. Miss Dauback had intended to visit in California, but the railroad strike made it impossible for her to make the trip.

J. L. Forsythe, Western representative of Atterbury Brothers, New York, and whose headquarters are in Chicago, states that business is very good, but the situation at the mills looks serious. Mr. Forsythe covers all territory West of Buffalo.

C. L. Rheinhart, A. Entwhistle and several other salesmen of the Bradner Smith Company, have returned from their vacations. All these men have returned full of pep and looking for big business.

The Champion Coated Paper Company, 111 West Washington street, has arranged a fine display of paper making materials that is being shown at their offices. "Bob" Butterworth, manager of the Chicago office, reports that local customers and out-of-town trade are very much interested in the display.

The Seaman Paper Company, 10 South LaSalle street, displayed an exhibit at the "Pageant of Progress" made up of numerous first page covers of the many different publications for which it sells paper. It also displayed pictures showing the different operations at the company's mills.

Hugh Strange, of the John Strange Paper Mills and Pail Company, transacted business in Chicago, August 17. Mr. Strange is manager of the mills at Menasha and reports that everything is running to full capacity. Mr. Bull, advertising manager of the Bradner Smith Company, Chicago, left August 16 on a business trip to Holyoke, Mass.

H. J. Keenan, of the Western Newspaper Union, Omaha, is expected in Chicago about August 25. Mr. Keenan will visit amongst the different mills in the Middle West.

A. J. Austin, of the Moser Paper Company, is spending three weeks' vacation traveling in Michigan.

W. T. Morgan, display manager of the Bradner Smith Company, is spending his vacation at Channel Lake, Antioch, Illinois. He reports that business is very good, but shipments are delayed from the many mills in the United States.

J. E. Thorndyke, of Bradner Smith Company, has returned from a trip throughout the Northwest. While in the West Mr. Thorndyke visited with his son and daughter.

QUIET DEMAND IN TORONTO

(*Continued from page 22*)

ton Company, Toronto, got back recently from a vacation trip down the St. Lawrence River.

James W. Sewall, of Old Town, Maine, has gone into the upper Ottawa region, in Quebec, where he has a crew completing a detailed survey and timber estimate of their holdings for McLachlin Bros., Ltd., of Arnprior, Ont.

Paper Sales, Limited, of Toronto, have been appointed Canadian representatives of white Japanese ivory cover papers, which are put out by the Royston Paper Company, of Boston.

The Ontario Government reforestation station at St. William, Norfolk County, is very active at the present time and is an important factor in the forest preservation of the province. Areas suitable for replanting are being given attention. It is expected that next year 5,000,000 young trees will be ready for distribution.

A. P. Costigane, of Toronto, safety engineer of the Ontario Pulp and Paper Makers' Safety Association, who has been spending his holidays at Big Bay Point, on Lake Simcoe, has returned home.

Fred L. Ratcliff, of the Ratcliff Paper Company, who is president of the Toronto Rotary Club, was at Batavia, N. Y., last week, on business connected with the Rotary Clubs of that district.

Albemarle Paper Mfg. Co. Expands

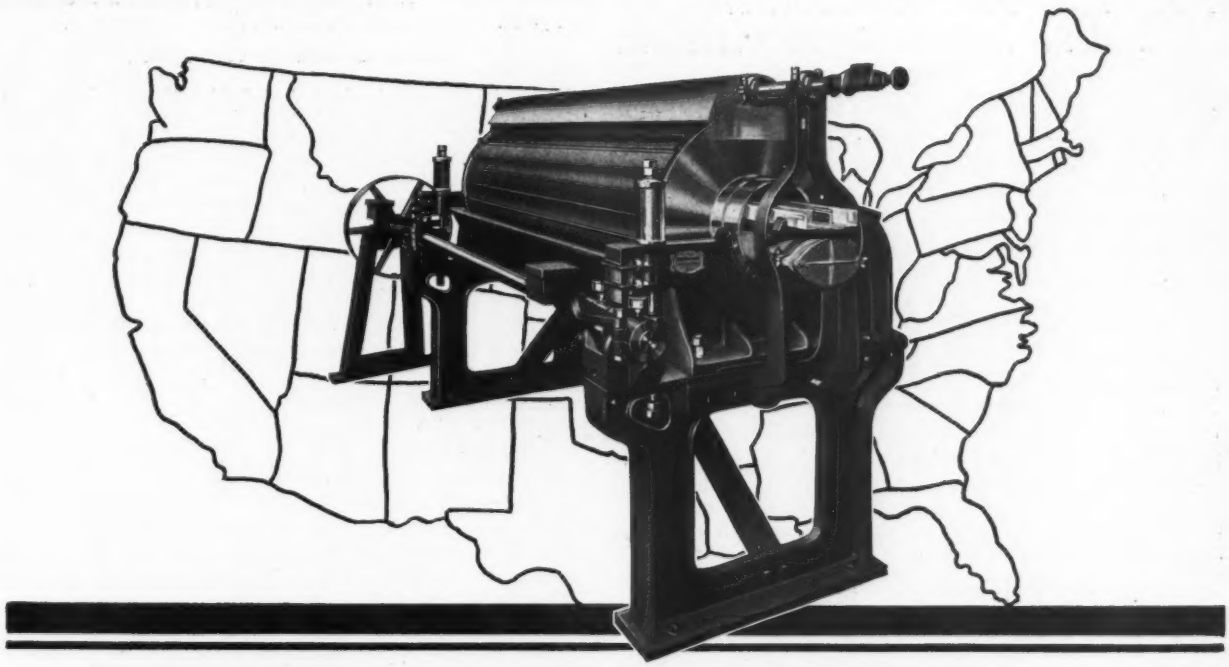
[FROM OUR REGULAR CORRESPONDENT]

RICHMOND, Va., August 21, 1922.—The Albemarle Paper Manufacturing Company will have completed by August 15 the re-building of its paper machine in the Hollywood Mill, where it manufactures famous brands of blotting paper, stereotype paper, and absorptive papers for manufacturing. The tonnage of this plant will be increased from an average daily production of 25,000 pounds to 40,000 pounds per day. A new power plant has been installed to double the capacity of its former plant. The paper machine has been rebuilt by J. H. Horne & Sons Company, and has been made modern in every respect.

Government Paper Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—Knowlton Brothers Company have been awarded the contract by the Purchasing Officer of the Government Printing Office for furnishing 12,000 pounds (250 reams) of 20 x 25—48 pounds of smooth granite cover paper at $.0749 per pound in bundles. Bids for this paper were opened on August 11.



REAL EVIDENCE

There are working in the paper mills of this country making papers from a long-fibred slow-working stock

150 WALPOLE SCREENS

The reason is that the WALPOLE SCREEN is designed for the purpose of overcoming the many difficulties usually experienced in screening this kind of stock.

The stock is uniformly clean.

Production is continuous, with freedom from lumps or slime and shutdowns for washing up.

Perhaps you would like to hear the story of the WALPOLE SCREEN directly from some of these mills.

BIRD MACHINE COMPANY

South Walpole Massachusetts

Western Representative,
T. H. Savery, Jr., 1718 Republic Bldg.,
Chicago, Ill.

Canadian Builders of Bird Machinery.
Canadian Ingersoll-Rand Co., Ltd.,
260 St. James St.,
Montreal, Canada.

WALPOLE SCREENS

88-232

XUM

PULP AND PAPER SECURITIES AGAIN ACTIVE IN MONTREAL

Many Thousands of Shares Are Being Dealt In and All of the Leading Issues Have Made Substantial Advances in Prices—This Activity Is Believed to Be Due to the Active Demand from Abroad, Particularly for News Print and the Prospect of an Advance from $5 to $10 Per Ton as Soon as the Present Contracts Run Out—Spruce Falls Co. Buys New Drying Machine.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., August 21, 1922.—Pulp and paper securities have once more taken the position of leaders on the Montreal Stock Exchange, and many thousands of shares have been dealt in this week. All the leading issues have scored substantial advances in price. This activity is due to the increasing demand from abroad, particularly for news print, and the prospects of an advance from $5 to $10 per ton as soon as present contracts run out. The exports of pulp and paper since April 1 represent an increase of $13,700,000 over the same period last year.

New Machine for Spruce Falls Co.

The new 154-inch Fourdrinier pulp drying machine ordered some time ago by the Spruce Falls Company, Ltd., of Kapuskasing, Ont., has just been delivered at the plant, and installation is to be proceeded with immediately. The machine was built by The Karlstad Mekaniska Verkstad, of Karlstad, Sweden, the order being placed through Pulp and Paper Mill Accessories, Ltd., of Montreal, of which J. D. Volckman is manager. The Spruce Falls Company's mill is a new one, and its capacity when completed will be 240,000 pounds of sulphite fiber every 24 hours. The buildings are all ready for the installation of the machinery.

Riordon Position Improving

The Creditors Committee of the Riordon Company has sent out a report to the shareholders showing a net betterment in the Company's banking position of $532,305 in the case of the Imperial Bank and $528,252 in the case of the Bank of Montreal. The reports says in part:

"This is a particularly good showing, since during that period there has been expended $268,153 on harvesting last year's logs in streams. The sales outlook is more reassuring than for any time for the past two years. The full output of pulp from both the Kipawa and Hawkesbury mills has been marketed at factory prices up-to-date, and orders are now on hand to cover the production for the summer months—a period which is usually a dull one. The Calumet sawmill has been in operation since May, and will be run day and night for the balance of the sawing season.

"One of the most important and serious questions which has faced the Riordon Company in the past year has been the possibility of the loss of the Gatineau Company's timber limits and mill properties which were bought from W. C. Edwards & Co., Ltd., and from Gilmour & Hughson, Ltd. These properties have been subject to forfeiture and sale, since the Gatineau Company has been in default on its payments. Your Committee is glad to announce that arrangements have been consummated with both W. C. Edwards & Co. and Gilmour & Hughson, Ltd., whereby this possibility is averted and the obligations on these limits and properties have been reduced to a reasonable sum.

"To sum up the result of operations today, we would emphasize the fact that large quantities of inventory material have been converted into cash, thereby building up future working capital by increasing the existing equity in the inventories over and above the bank loans; and the negotiations explained above have saved to the company an equity in the Gatineau property, which, it is estimated, will go far in asset value to offset the bonded indebtedness."

Forestry Students to Visit Canada

R. G. Broadwood, M. C., B. S. C., I. F. S., lecturer on Forestry in the University of Edinburgh, is visiting Quebec Province to look over the lumber camps of this province in order to prepare the way for the conducting of a party of students in the forestry branch of his university here early next year; believing, as he stated, that Canada easily tops the world in this line of work, particularly in its engineering side. Up to the present, he said, most of the British Isles graduates in this profession have gone to France, Germany, Switzerland, India and even Nigeria, to finish the last lap of their curriculum; it is his own opinion that the drift should now be changed to Canada, despite the slight handicap of the expense of passage and living. He contrasted the quick and efficient work done here with that of the Himalayas, where the country is difficult, though labor is cheap, but where the average speed is "200 logs a mile a month." Mr. Broadwood will remain in this country till the end of October.

Forest Air Service

The Laurentide Air Service, Ltd., of Montreal has this year to date covered over 25,000 air miles (about 300 flying hours) in connection with forestry operations either reconnaisance, fire detection, fire fighting or transportation of supplies and equipment for surveys, fire-fighters, etc., without a single accident and only very minor delays due to mechanical trouble.

Canada Has Two Forest Experiment Stations

While forest experiment stations, like agricultural experiment stations, have long been known in Europe, they are new in Canada. The Dominion Forestry Branch of the Department of the Interior has two such stations, one at Petawawa, Ontario, and the other at Lake Edward, Quebec, with substations located in other provinces. At these stations every feature of forest growth is studied, just as agricultural problems are studied at agricultural stations and experimental farms. As the agricultural stations have added to the value of farm crops by introducing new varieties and new methods, so, it is expected, the forest experiment stations will increase the quality and quantity of forest crops by discovering what varieties do best in certain localities, and by finding out by what methods of seeding, planting, mixing of species, thinning, draining, etc., new forests can be grown most rapidly to take the place of those cut down and destroyed by fire.

Better Pulp Market in Denmark

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—According to a report recently received from H. Sorensen, Assistant Trade Commissioner, Copenhagen, by the Department of Commerce, the cellulose market in general has assumed a firm character, with the exception of one market, namely, the Far East. It would seem that this market had covered its requirements, the demands for cellulose having declined and prices having fallen. Another reason advanced for this change is that Canadian manufacturers are competing in this market.

Present sulphite prices are low, while prices on sulphate continue to be firm. Christiania stock exchange quotations of July 12, 1922, are as follows, per ton of 2,240 pounds f.o.b., Norwegian ports:

Easy bleaching sulphite, kr. 300; bleached sulphite, kr. 500; strong, unbleached sulphite, kr. 305; sulphate, easy bleaching, kr. 300; sulphate, kraft, kr. 305.

There seems to be a lively demand for groundwood, particularly from Great Britain. On July 12 the stock exchange at Christiania increased prices on wet and dry mechanical pulp to kr. 4.00 and kr. 5.00 respectively, making the market price on that date as follows: Prime white spruce (dry), kr. 100; prime white spruce (moist), kr. 200.

XUM

BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

BELOIT IRON WORKS

Founded in 1858 and from that time devoting itself exclusively to the building of

Paper Making Machines

BELOIT IRON WORKS
BELOIT, WISCONSIN, U. S. A.

MULLEN BROS. PAPER CO.'S CREDITORS TO GET DIVIDEND

Will Receive 30 Per Cent., Amounting to $30,000 at the End of This Month—Land & Timber Co., of Escanaba, Mich., Reported Financially Involved Owing to Slump in the Demand for Pulpwood—Kalamazoo Vegetable Parchment Co. Entertains Members of the Grand Rapids Club of Printing House Craftsmen—Employees of Bryant Paper Co. Have Enjoyable Outing.

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., August 21, 1922.—Creditors of the defunct Mullen Brothers Paper Company, St. Joseph, will be paid a 30 per cent dividend this month, the amount being $30,000. It is now expected that at the September term of circuit court in Berrien county that a suit will come up for the foreclosure of a $70,000 mortgage held by Francis Hughes Company, Chicago.

Land and Timber Co. Financially Involved

The Land and Timber Company, of Escanaba, Mich., is financially involved. While the assets exceed the liabilities, they are not liquid enough to care for the call loans and it is reported that some other means of payment must be devised. According to press reports the losses are due to the slump in the demand for pulpwood. In 1919 and 1920 this concern did a big business and was so heavily pressed for orders that an unusually heavy supply of pulpwood was contracted for. Then came the slump in the paper business and much of this pulpwood was sold at a loss of $6 a cord, wiping out the company's capital.

Kalamazoo Vegetable Parchment Entertains

The Kalamazoo Vegetable Parchment Company, Tuesday, entertained 46 members of the Grand Rapids Club of Printing House Craftsmen. They were invited to be guests of the Parchment company by the Quimby-Kain Paper Company, of Grand Rapids.

During the morning the visitors were given ample opportunity to visit the various departments of the big plant and view the great expansion work now being carried on. Dinner was served at 11:30 in the community house. At that gathering Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company, gave the visitors a talk on why and how the Parchment company handles its business and also its factory.

A considerable portion of the afternoon was devoted to a visit to the King and Monarch divisions of the Allied Paper Mills. Dinner was served at the Park-American Hotel. Following this Ed. T. A. Coughlin, superintendent of the coating department of the Monarch division, described the making of book paper.

Bryant Paper Co. Has Outing

Catherine Ivory's Imps were rubbing it into C. Allen Fox's Fat Men Independents, on the Long Lake lot, Saturday morning, when Pete Roundhouse, umpire, called one of the fair damsels safe at first. That raised a mad riot among the harassed fat boys, who proceeded to grab his umps and tossed him into the lake, thereby giving opportunity to soak up a little knowledge of the game.

Being the opening event of the Bryant Paper Company's first picnic at Ramona, it augured well for a real lively day. The prediction was true, there being a lot of happenings before nightfall to make the day a memorable and enjoyable one for all participants.

All the contests were spirited, workers from the various divisions rooting madly for their respective contestants.

The event turned out to be one of the really big industrial outings of the year. Between 2,500 and 2,700 people gathered in the grove for the basket dinner at noon. The Bryant Paper Company furnished ice cream and lemonade for adults, with milk for the children. The company also bought all the prizes, handled the transportation and secured exclusive use of boats and bath houses. Snugg's band played during and for the dance in the evening.

Paper Mill Watchman Shoots Negro

John Quigg, 69 years old, watchman at the plant of the Kalamazoo Vegetable Parchment Company, shot John Perkins, negro, who attacked him last Monday night. Quigg was going his rounds and as he entered the Glendale division of the concern, Perkins felled him to the floor with a piece of iron pipe. The blow failed to render Quigg unconscious and he drew his Colt's and fired two shots at his assailant. One took effect.

K. V. P. Co. Has Fire Department

The Kalamazoo Vegetable Parchment Company now has a fire department, equipped to capably handle small fires, practically any blaze up to real conflagration. The latest addition to the equipment was the purchase of a Reo speed wagon hose and chemical truck.

Coal Shortage Serious in Miami Valley

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, August 21, 1922.—Inability to obtain fuel resulted in suspension of activities at the Crystal Paper Company's mill at Excello, three miles south of Middletown, the latter part of last week.

It was feared up to the time final sessions were conducted to terminate the railway strike, that other paper concerns would follow suit. In fact, the operations of several mills have been crippled as a result of the coal shortage.

Despite the adjustment of the coal miners' strike and the railway controversy, there will be no improvement in the Miami Valley situation for some time, according to statements made by coal dealers today.

It is indicated that priority orders and slow freight movements will result in delays which may mean that only small supplies of fuel will reach this section of Ohio until October.

Z. W. Ranck, general manager of the Crystal Mills, appealed to Governor Davis of this State for coal, but could secure no promise of assistance.

In order to keep the boilers going, the Crystal Paper Company was compelled to seek aid from the Vulcanite paper mill at Franklin, paying $10 per ton for 500 tons of coal, and defraying the cost of hauling.

Mr. Ranck stated that it was his opinion many concerns soon would be feeling the effects of the coal scarcity and that other shutdowns would follow.

The situation in Piqua also is reported as critical. Several large manufacturing companies postponed until this time the stock-taking period in order to close and conserve their coal supplies.

In Dayton, paper mills and kindred establishments, including the several box and oyster pail plants, have struggled along, but face a rationing of coal due to the shortage.

Representatives of the Dayton Power & Light Company which supplies motive power to a number of such establishments not only in this city but in towns within a radius of 40 miles of Dayton attended a meeting of electric light men in Cleveland, when the matter of rationing electricity was considered.

It was said today to be extremely probable that such an arrangement would be made here, motive power being furnished in restricted quantitiy, while homes and business houses also would be affected.

The Miami Valley Traffic Club, which has within its representative membership practically all of the paper mill owners or managers, has forwarded a telegram to President Harding advising a "hands off policy" on the part of the Government in the railroad strike.

XUM

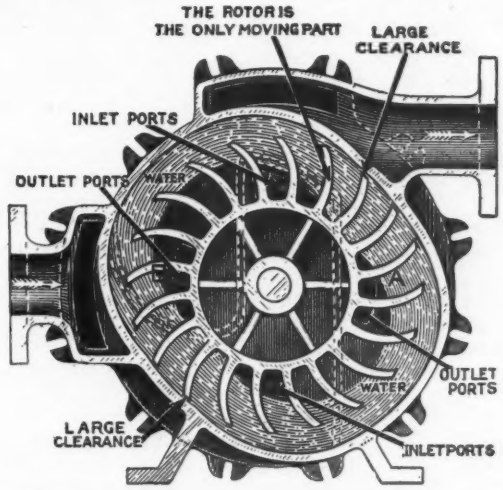
THE HYTOR VACUUM PUMP

FOR FLAT BOX SERVICE

Vacuum Produced Absolutely Without Pulsation

No Vibration

Saves Wires



Only One Moving Part

No Rods, Pistons, Crank Shafts Loose Moving Parts and No Gears

No Expert Attendance

Western Representative
T. H. SAVERY, Jr.
1718 Republic Bldg.,
Chicago, Ill.

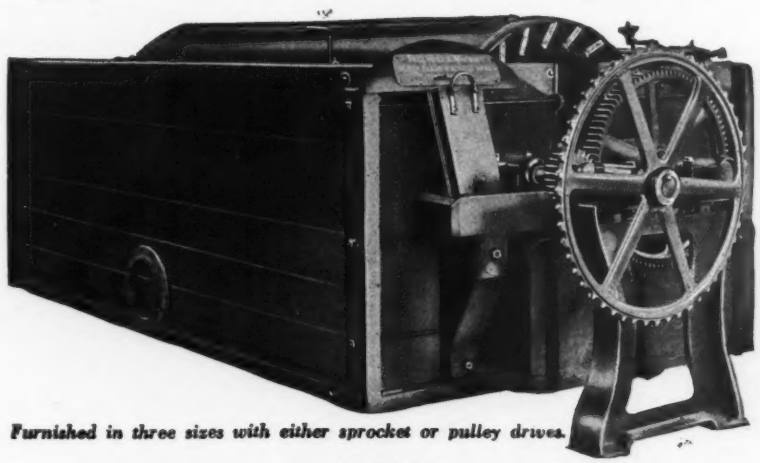
THE NASH ENGINEERING CO.
WILSON POINT ROAD
SOUTH NORWALK, CONN.

New England Representative
G. H. GLEASON
185 Devonshire Street
Boston, Mass.

THE WOOD'S MACHINE

Distinctive performance and intensified confidence in this machine as a Pulp Thickener, Save-All, Washer or Water Filter insure success in its building.

On the market but a few years, our installations number more than **Eighty-five. Twenty-nine sold** the past year.



Furnished in three sizes with either sprocket or pulley drives.

MADE BY
GLENS FALLS MACHINE WORKS
GLENS FALLS, N. Y.
Try our Split Cams for your Flat Screens

SIMPLICITY, in cylinder and vat construction, operation automatic, and without couch roll, doctor or any complicated moving parts.

DEPENDABILITY, in its simple revolving cylinder only, with nothing to get out of order, requiring little attention, and having a patented principle of maintaining wires always clean, insuring continuous performance.

PRODUCTIVENESS, enormous, through clean wires, large screening surface, patented unique method of discharge and freedom from shut-downs.

DURABILITY, by rigid construction, ample bearing surfaces, nothing to injure wires and highest grade materials.

All these enhance its value and involve upon you the duty of investigation.

XUM

F. A. CURTIS TELLS ABOUT PAPER LABORATORY

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—F. A. Curtis, chief of the paper laboratory of the Bureau of Standards, Department of Commerce, in an interview had the following to say regarding the work of his laboratory which is of special interest to the paper trade in view of the standardization work which is being carried on jointly between the paper laboratory and the industry. Mr. Curtis said:

The functions of this section are the study and development of methods of testing paper, the investigation of paper-making materials, the experimental production of special types of paper, the study of paper-making processes, the development of standards and specifications for papers and the testing of paper, both for the Government and for the public.

General Conditions

It has not been necessary to purchase any large pieces of equipment during the year and there has been little change in the facilities for this work. Minor pieces of apparatus have been obtained, for the testing laboratories and especially for the paper mill, such as an electric conditioning oven, centrifuge, wire guide, large deckle straps, new lower press roll, torsion balance, glarimeter, etc. Every effort has been made to concentrate on the testing apparatus and equipment available and to standardize test methods as much as possible. The flexibility of the conditioning apparatus in the physical testing laboratory was demonstrated during a series of tests under conditions of relative humidity varying from 15 to 85 per cent. Some difficulties are, however, still experienced in maintaining exactly 70 degrees temperature in the hot part of the summer, due to lack of insulation of the walls of the test room. The power supply has improved and there have been less delays due to that cause.

Tearing Strength of Paper

As indicated in the last annual report, two studies were continued during the year in regard to the tearing strength of paper. Two publications (Technologic Papers No. 194, and PAPER TRADE JOURNAL, March 9, 1922) have been issued, giving the results of these studies. It has not been possible as yet to recommend a standard method for determining this quality of paper, chiefly because of certain unknown factors introduced when more than one sheet is torn at one time. It is believed that the apparatus available at this time will give important information in connection with mill control work and that each of the types are of some such value. It is doubtful, however, whether any results are of an absolute nature and it is thought desirable to continue this study in the hope that a method may be developed which will give a true value to the tearing quality of paper. This quality is of very great importance in connection with wrapping and envelope paper and also in the case of paper for books, magazines, etc. However, the chief reason for continuing this research is to develop a method which compares with the common practice of tearing a corner of a sheet of paper to determine its quality and to have a check on the other test methods which do not give sufficient information. It is believed that a suitable test may be developed to give a true value of the tearing strength of a single sheet of paper.

Thickness of Paper

In co-operation with the Gage Section, an investigation of commercial dial micrometers for measuring the thickness of paper has been completed. This problem was taken up because of the differences existing at this time in the various types available and because of the fact that check results cannot be obtained in many cases, when using micrometers of different types. For this reason controversies have arisen and it was believed necessary to investigate the subject thoroughly, in order that definite data might be available. This study was made of twelve different micrometers, as to their mechanism and performance with fourteen different kinds of paper. Measurements were made of the area and parallelism of the contact surfaces and the static contact pressures of the instruments. It was found that there were radical differences in the various types of micrometers and that the thickness of paper as measured by these various instruments were in some cases quite different. These differences were most apparent where a bulky, loosely-formed sheet was used, due to the differences of the static pressure in the various types of micrometers. It has been possible to develop specifications for a standard instrument and for a procedure to determine the mean thickness of paper samples. Such an instrument should be of great value, because of the varying compressibility of different papers and the different pressures exerted by the various types of dial micrometers now used for determining the thickness of paper.

Blotting Quality of Paper

Considerable difficulty has been experienced in determining the blotting quality of paper by the Klemm strip method, which does not sufficiently take into account the thickness of the sample, nor the value of the sample in connection with repeated blottings. In the case of some papers, a high initial absorption will be obtained, but subsequent application of the sample to ink will often produce a blot, due to lack of further absorption. Twelve samples of commercial blotting papers were examined and tested by four different methods. These results were studied in connection with the bulk of the sample, the fiber content and the amount of ash present. It was found that, although the amount of bulk is an indication of the value of the sample, the fiber content and the amount of ash present are of great importance and should be considered. The best results were obtained with samples having less than 10 per cent of ash present and with a high percentage of cotton or rag fiber. The absorptive value of the paper is due to the air spaces between and within the fibers and, since the long rag fibers are cut up in the beater, there are a large number of ends to permit absorption within the fiber. The fibers of the broad leaf woods are bulky but are short and have not so many open ends, which probably accounts for their less absorptive quality. For determining the value of a blotting paper, a practical test was developed which will give relative results and also indicates which of several samples may be considered the best. It should be noted that the samples used in this investigation were those to be used for blotting writing inks and were not the type of paper used as desk covers, which are less absorptive, more compact and more durable.

Effect of Relative Humidity on Paper

Data appearing in various publications and developed by different laboratories, have indicated that it is necessary to control the atmospheric conditions in the testing laboratory in order to obtain accurate and reliable information as to the physical qualities of paper. This is due to the fact that changes of relative humidity markedly affect the moisture content of paper which in turn affects most of the physical characteristics of a sheet. In order to check work done at this Bureau ten years ago and to widen the scope of the information, a series of tests on eleven samples of different kinds of paper were made at relative humidities from 15 to 85 per cent. These tests included weight, bursting strength, moisture content, folding endurance, breaking strength, tearing strength, expansion, and stretch. An examination of these data indicate that the bursting and breaking strength increase with increase of relative humidity from 15 to 35 per cent and decrease as the relative humidity increases from 35 to 85 per cent. Weight and moisture content increases regularly with increase of relative humidity, as do the stretch of

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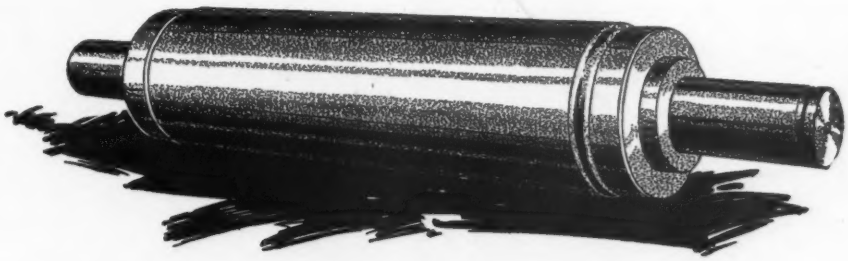

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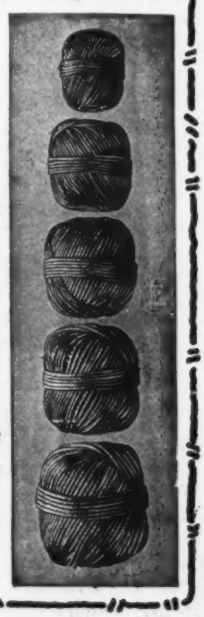

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CORDAGE

F. A. CURTIS TELLS ABOUT PAPER LABORATORY

(*Continued from page 30*)

the paper under load and the expansion without load. Both the tearing and folding qualities of paper are markedly affected by changes of relative humidity, increasing in value with increase of relative humidity; however, this effect is not so regular with the different kinds of paper. It is shown by the data obtained that the tendencies indicated above are not the same for all kinds of paper and that it is probably impossible to develop a suitable conversion factor for the various tests. It is recommended, however, whenever possible, that some definite conditions of relative humidity be maintained within close limits in order that test data obtained on similar samples of paper may be comparable. A full report of the data obtained in this investigation will be published in the near future.

Paper for Cement Bags

In connection with specifications for paper for lime and cement bags, published in Technologic Papers No. 187, tests were made on ten samples of bags obtained from several shipments of cement to determine whether commercial bags conform to these specifications. Complete tests were made on these samples and it was found that only one bag would entirely conform to the specifications. Nine bags had a bursting strength equal to the specifications, five bags had the necessary ratio of bursting strength to weight, seven bags contained 50 per cent or more of manila and jute stock, eight bags passed the folding endurance specification, five bags had a breaking strength equal or greater than the specifications, but only two bags conformed to the breaking strength specifications. Data are being collected as to the value of the bags under service conditions of shipment and a study of these data will indicated whetiier the specifications as developed will be satisfactory for paper for this purpose.

Blue Print Paper

For several years paper manufacturers in this country have been developing a paper, for blue print purposes, which has seemed to give complete satisfaction. The requirements for this type of paper are somewhat severe for it must properly absorb the sensitizing solution, must resist rough handling when the blue print is in use and must have sufficient strength when wet to permit of handling in the washing bath. In order to determine the relative value of such paper made in this country and abroad, a number of samples were obtained and complete tests are being made. A comparison of the test data with specifications covering various uses of blue print paper will indicate whether commercial papers are equal to these specifications and whether foreign-made papers have any superior qualities over such paper made in this country.

Carbon Paper

As indicated in the last annual report, a study of carbon paper was being made in co-operation with the Chemistry Division. It has not been found possible to specify any but a practical test to indicate the value of carbon paper, but it has been possible to standardize the method of making this test in order to obtain relative values of carbon paper. For the purpose of Government specifications, carbon paper was divided into three classes or weights in connection with the number of copies to be made at one time on the typewriter. The kind and quality of paper to be used in making these tests have also been specified, as well as the kind of typewriter, type, etc. Data obtained in this manner on a large number of samples and correlation with actual use in the Government service should permit the development of definite specifications of carbon paper for use with the typewriter.

Sizing Quality of Paper

Over a year's study of the electrical conductivity methods of measuring the sizing quality of paper indicates that, although the data curves obtained are consistent and regular, it is not possible to evaluate these curves in order to obtain a numerical value for this quality. The problem is of considerable importance, since there is little or no uniformity in determining this quality and the present methods used do not give results that indicate the true value of the sample. A reliable method is essential before an investigation of the sizing process can be undertaken. A new method has been developed and published in the PAPER TRADE JOURNAL, April 6, 1922, pp. 43-49, by F. T. Carson, which has the advantage of requiring very little equipment and of giving consistent results which may be given a numerical value. The test depends on the time of curl of a small sample of the paper, floating on water at a definite temperature. This time of curl is very consistent for a given sample of paper and by properly taking into consideration the thickness of the sample when completely saturated with water, a numerical value is obtained which indicates the degree of resistance to absorption of the sample. This method is being tried out by several paper mill laboratories and such data will aid in determining its actual value.

Herzberg Stain

In the microscopic examination of paper to determine the proportions of the various fibers of which it is composed, it has been customary to make use of a selective stain composed of zinc chloride, potassium iodide and iodine. The stain has the property of coloring cotton, chemical wood pulp and mechanical pulp differently which permits of greater ease in differentiating these fibers. Considerable difficulty has been experienced, however, in preparing this stain, so that the color differences are correct and it is the general practice to "doctor" the stain to get the proper colors with known fibers. A careful study of this problem has developed a formula and manipulation which produces the necessary color differences and has eliminated the necessity of modifying, from time to time, the proportions of the ingredients of the stain. Such a formula is of great value to the various paper testing laboratories which are equipped to make microscopic examinations and will assist in obtaining greater accuracy, due to greater uniformity of color.

Photomicrography

During the past two or three years, extensive data have been collected on methods of making photomicrographs of vegetable fibers used in the manufacture of paper. An increasing number of technical laboratory workers and others are availing themselves of the possibilities of this means of studying problems and it is believed that a publication on this subject would be timely. Various phases of this subject are considered in a report that is now in press which gives data and methods of manipulation as follows:—source of illumination, light filters, use of condensers, use of substage diaphragm, choice of camera and objective, photographic plates and their development, value of representative field of fibers, value of staining and photomicrographs as permanent records. The publication is replete with diagrams and photomicrographs which illustrate the various points to be brought out.

Color of Paper

There has been a demand for a method which would satisfactorily measure and give a numerical value for the color of paper. Apparatus of this character is of importance in the study of such problems as the use of various clays as fillers in paper and also in connection with the color values and bleaching of the various pulps used in white printing and writing paper. Likewise a means of measuring the color of paper would be of great importance in assisting manufacturers to maintain uniformity of color, something of great importance in making fine papers. Through the coöperation and assistance of the Optics Division, an apparatus has been in-

(*Continued on page 34*)

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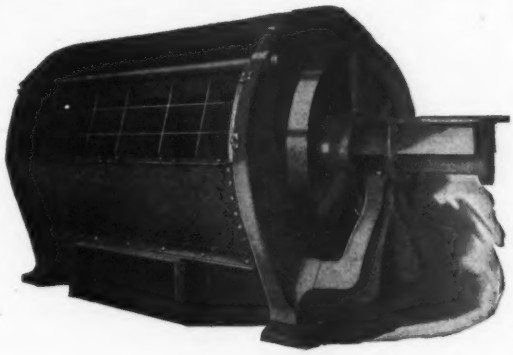

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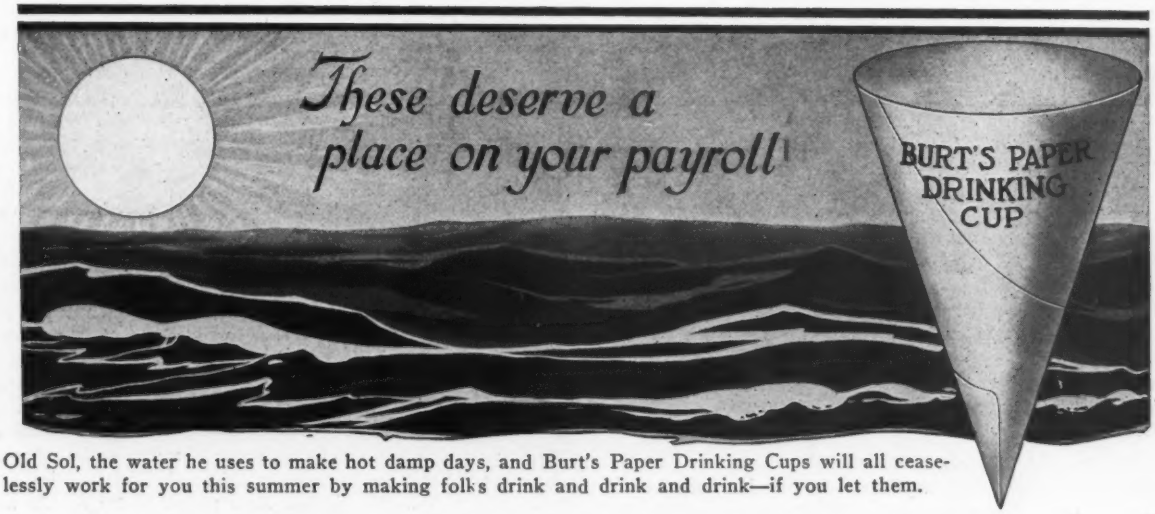

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F. A. CURTIS TELLS ABOUT PAPER LABORATORY

(*Continued from page 32*)

stalled, the chief portion of which is a spectrophotometer. Delays in securing the parts necessary for this apparatus have made it impossible to determine at this time whether such an equipment will be satisfactory for slight differences of tints of white paper, but with certain modifications, a suitable method for distinct color differences is being developed.

Flax Straw and Tow

Many attempts, both laboratory and commercial, have been made to utilize the million tons of seed flax straw which are produced annually in this country and of which 80 per cent are wasted. Most of the attempts have had in mind the production of a strong paper from the bast fiber, attached to the straw, by the elimination of the woody straw fiber which is short and of little strength. Mechanical separation of the woody straw fiber from the long bast fiber is necessary, as well as a solvent for the ligneous and pectous binding compounds which will not weaken the bast fibers. In most cases, alkaline solvents, such as milk of lime, caustic soda, etc., have been used but it has not been possible to eliminate all the woody shive by these processes. In the work carried on at the Bureau the "sulphate" process of cooking wood was used, both in the preliminary epxerimental work and the cooking trials under mill conditions. The process was found satisfactory for the separation of the bast fibers and paper was made, both from the flax straw and the flax tow, which had a strength equal to a good grade of wrapping paper and bond paper. Difficulty was experienced in eliminating extraneous dirt which had been introduced by careless handling of the tow and straw and because of unfavorable conditions during the cooking trials under mill conditions. No difficulty was experienced, however, in handling the stock on the paper machine at the Bureau of Standards where all the cooked fiber was converted into paper, both that produced in the experimental rotary and in the mill cooking trials. Complete data are not yet available as to the actual yield of paper from the straw and tow but about seven tons of whole flax straw are required for one ton of pulp for wrapping purposes. In general it may be said that a fair quality of wrapping paper can be made from whole seed flax straw, that a good quality of writing paper can be made from seed flax tow, provided especial care is taken to eliminate specks, that pulp prepared from seed flax tow can be readily bleached, that the chemical consumption for the preparation of pulp from the whole straw is about double that required for wood, that the chemical consumption for the pulping of a good quality of seed flax tow is only slightly in excess of that required for wood and that, at the present time, it is not economically feasible to use seed flax fiber for the making of paper unless a solvent can be developed which will not weaken the bast fiber, during the process of separation from the pectous and ligno-cellulose material combined with it. A full report of this investigation is in preparation and will be published in the near future.

Clay in Paper as Filler

In co-operation with the ceramic division, an investigation was undertaken as to the relative value of foreign and domestic clays when used as fillers in printing papers. This material is added to the fiber stock during the process of manufacture of paper to produce a smooth even surface, by filling up the interstices between the fibers, to permit of half-tone printing, etc. Foreign clays, chiefly from Cornwall, are used to a large extent for this purpose in this country and this investigation was undertaken to determine what qualities of the foreign clays produced the better results. In general, color, grit and retention on the paper machine are the factors to be considered. Complete physical tests have been finished by the ceramic division on a number of domestic and foreign clays and preliminary work on the paper machine is under way to standardize the conditions of making the comparative runs. A considerable amount of preliminary work has been necessary to determine the closeness of check runs and a suitable method of determining the value for retention of filler. The problem has been made more difficult by the shortness of the runs and by the lack of uniformity among the paper millls as to a method of determining retention. This work will, however, be continued and as soon as definite data are available which may be used as the basis for tentative conclusions, co-operative tests are to be made with several book paper mills under commercial conditions.

Clay for Coating Wall Paper

The Bureau co-operated in a series of mill experiments in which four domestic clays were used successively in connection with the coating for wall paper. The problem under consideration was whether these domestic clays would be saisfactory when used with a special gum as adhesive. The tests indicated that all four clays worked satisfactorily and difficulties experienced in this connection are probably due to lack of care in heating the gum or in obtaining the proper proportions.

Standardization of Paper

During the past year, the question of the standardization of paper has been taken up with representative manufacturers and users. In view of the very large number of kinds of paper and uses for paper, certain general phases of the subject are being considered by several committees which are collecting information and data on which to base recommendations. Because of the necessity for obtaining a uniform classification of the kinds of paper for the purpose of properly tabulating statistics, a grouping of the various similar types of paper is being accomplished. Such a classification will be of great value to all agencies engaged in the collection of statistics of the paper industry and should make it possible to compare accurately data obtained through different sources. The use of terms and names of kinds and grades of paper is very indefinite in many cases. Definitions are being developed for about six hundred such terms and names, and this is being done with the assistance of manufacturers, users and technical men of the industry. The acceptance of such terms and their arrangement in the form of a glossary or dictionary will be of great assistance in eliminating certain misunderstandings between buyer and seller and will have considerable significance in connection with export trade. A large economy may be obtained by the reduction in the number of sizes and qualities of paper, both as to the large size sheets as sold and in the number of sizes of printed matter. An exhaustive survey is now well under way by a committee of large users of paper and a report and recommendations will be available in the near future. This phase of the subject is of great economic importance and will result in benefits to the manufacturer, distributor and user of paper. A technical committee is considering the following subjects: specifications of quality, standard methods of testing and sampling and tolerance to be permitted on deliveries. Because of the lack of such standardization these phases of the subject must first be considered in a general way and later particular kinds of paper can be considered in relation to their uses. This investigation will progress more rapidly after some of these general aspects of the problem have been settled.

Government Specifications

Assistance has been given various Government offices in connection with the development of proper specifications for the purchase of paper. In many cases, a large number of tests were necessary, but in this work an attempt has been made to bring more closely together the specifications as used in the various bureaus and offices.

(*Continued on page 36*)

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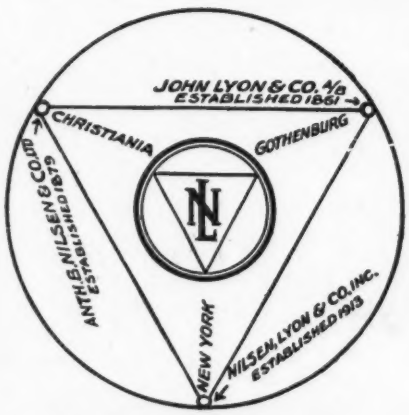

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(*Continued from page* 34)

Changes have been recommended in the standards for the District of Columbia, with special reference to terminology and conformity to good practice. Recommendations have been made in connection with the specifications used by the Government Printing Office, although the necessary changes in them are minor in character at this time, with the exception of light weight printing paper used in the Bureaus' publications. It has, however, been suggested from time to time that the tolerances as to weight should conform somewhat more losely to good commercial practice. In connection with the General Supply Committee, some additional items have been placed under the "standard sample" group.

Lime for Sulphite Pulp

In connection with the Interdepartmental Conference on Chemical Lime, specifications were prepared for a suitable lime and limestone used in the preparation of the liquor used for cooking wood chips by the "sulphite" process. These specifications were based largely on data obtained during the war from a questionnaire and reflects the opinion of experienced technical men of the pulp industry.

Routine Testing

Although the chief functions in connection with paper are the development of standard test methods and specifications of quality, a considerable amount of time is devoted to the testing of paper to determine the quality of such paper when delivery is made on contract to the government. In addition to this, a certain limited amount of testing is done for the public, but this work is kept at a minimum, as there are several reputable commercial testing laboratories equipped for this type of work. All tests of this nature are made by the Bureau at 65 per cent relative humidity and 70 degrees temperature.

	Number of samples	Fee
Government Printing Office	1,331	
Post Office Department	777	
General Supply Committee	404	
New York State	149	
Department of Commerce	155	
Department of Interior	50	
Department of Agriculture	30	
War Department	23	
Panama Canal	21	
Treasury Department	14	
District of Columbia	12	
Library of Congress	4	
Navy Department	4	
Department of Labor	2	
Bureau of Standards	422	
For the Public	206	
For the Government	3,398	$13,723.75
For the Public	206	794.50
Grand Total	3,604	14,518.25

Publications

The following publications, relating to the work of the Paper Section, have appeared during the year among the publications for the Bureau of Standards, and they may be obtained from the Superintendent of Documents:

A preliminary study for tearing instruments and tearing test methods for paper testing. (P. L. Houston) Technologic Papers, No. 194.

A study of commercial dial micrometers for measuring the thickness of paper. (P. L. Houston & D. R. Miller) (in press).

The Photomicrography of paper fibers. (R. E. Lofton, in press.)

The publications listed below have been published in outside journals by the members of the Bureau's staff indicated:

The standardization of paper (F. A. Curtis), PAPER TRADE JOURNAL, October 27, 1921.

A supplementary study of commercial instruments for determining the tearing strength of paper (P. L. Houston), PAPER TRADE JOURNAL, March 9, 1922.

The testing of blotting paper (P. L. Houston & R. Ledig), PAPER TRADE JOURNAL, November 10, 1921.

The determination of sizing quality (F. T. Carson), PAPER TRADE JOURNAL, April 6, 1922.

Improvements in methods of making the Herzberg stain used in fiber analysis (M. F. Merritt), PAPER TRADE JOURNAL.

PHOTOGRAPH TAKEN AT THE FIFTH ANNUAL OUTING OF THE METROPOLITAN BAG AND PAPER

Paper Bag Jobbers Have Outing

Karatsonyi's Hotel, at Glenwood, L. I., was the scene of festivities last Thursday, when the Metropolitan Bag and Paper Jobbers' Association held its fifth annual outing. Three big sight-seeing cars, festooned with flags and streamers, carried the crowd, nearly a hundred strong, from Borough Hall, Brooklyn, while bells, horns and whistles of the revelers drowned out the din of the traffic.

The day was featured by a shore breakfast and dinner, as well as baseball, swimming and various athletic competitions, including the fat men's race, three-legged race, hopping race, 100-yard dash and the running broad jump. Prizes were awarded the victors.

The entertainment committee consisted of A. E. MacAdam, Jr., chairman; Charles Wollney, who captured the prize offered to the most fleet-footed heavyweight; G. W. Batz, president of the association; L. H. Heberlein and J. M. Berger, treasurer of the association. From beginning to end, there was no hitch to mar the day's fun and when supper came around every bag and paper merchant in the assemblage did justice to the palatable array of sea foods, from fried eels to lobster.

In the early afternoon there was a ball game, presumably between the bag men and the paper men. The score was approximately 37 to 2, but no one seemed to know who won, so there was no ill feeling whatever. Outside the hotel a keg of something or other provided refreshment for the crowd until it was espied by a group of ladies whose club was also holding its annual outing. After the sarsaparilla, or whatever it was, had disappeared from its container, the ladies themselves helped wind up the sporting program, participating in several running events that were spectacular in the highest sense. Running in file formation, the leader unfortunately tripped and fell, the other nine ladies piling on top of her. On the second attempt, one succeeded in crossing the finish line and was awarded the Paper and Bag prize for agility.

Dancing was the next activity that claimed the attention of the association members, and by the time the ladies' club had departed it was time for supper. When the crowd piled into the waiting buses for the trip back home it was generally agreed that "a good time was had by all." On the return trip tuneful melodies emanated from the rear seats of the busses and the departing Association members, as they left the party at various "L" and trolley intersections for a well-deserved night's rest, were sent away with "John Jones is a Good Old Soul" and "He's a Jolly Good Fellow" by the Bag and Paper chorus.

General News of the Wisconsin Trade

[FROM OUR REGULAR CORRESPONDENT]

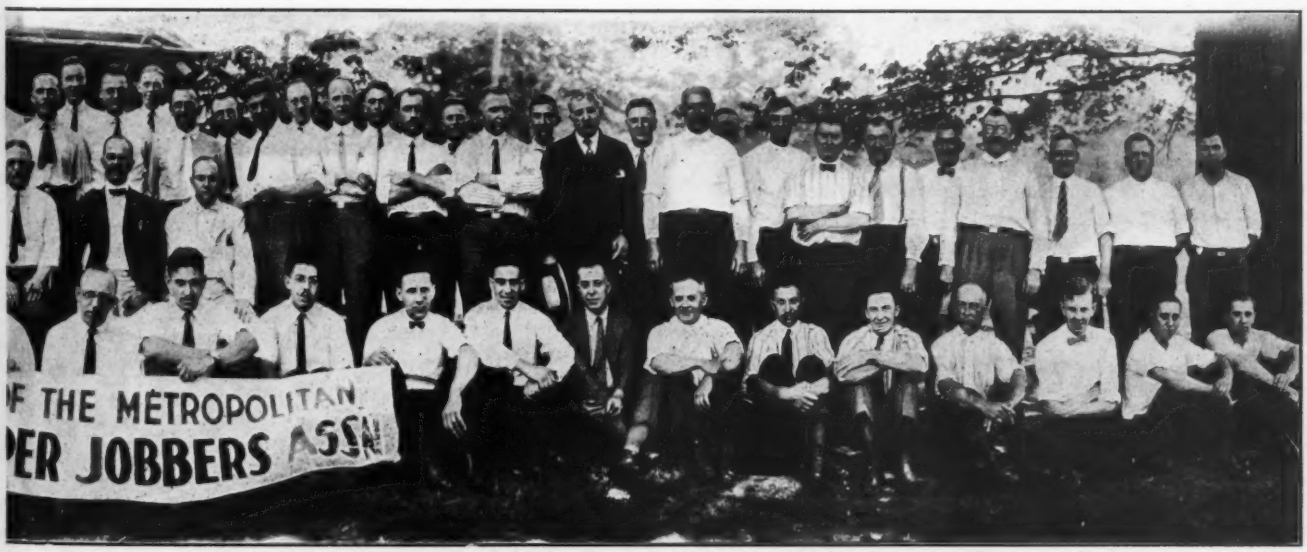
APPLETON, Wis., August 22, 1922.—Fox River valley paper mills are rapidly approaching the day when their coal supplies will be exhausted and shut-downs will be necessary, it has been learned. Two or three mills are quite well supplied, but there are others which are operating on a "hand to mouth" basis, with just enough coal in the yards to keep operating a day or two at the most. Two mills have burned large quantities of wood in the last few weeks. Small shipments of coal have been received, which has made it possible for the plants to keep operating.

Navigation on the Fox river, halted early in summer when the locks at Little Rapids were ruined by flood, will be resumed soon, but no coal is arriving at the docks in Green Bay and consequently opening of navigation at this time will be of little assistance to the millmen. Reports from other paper mill sections in the state indicate there is little danger of immediate closing down of plants and they are hopeful of being able to continue until the railroad strike is settled and coal starts moving again.

Engineers in charge of Fox river improvement here contend they do not know what the $100,000 recently appropriated by Congress for work in the Fox river is to be used for. It is believed greater sluicing facilities will be provided, but engineers say they have received no definite instructions from the War Department. Congress also appropriated $91,000 for dredging out the harbor in Green Bay so larger ships can dock there. This might result in larger coal shipments to the Green Bay docks.

The interstate commerce commission has ordered railroads to change their tariffs on printing, book and waxed wrapping paper, in carloads, from Kalamazoo, Mich., to a large number of cities in Illinois and Wisconsin so the rates are from one-half cent to six and one-half cents higher than rates contemporaneously maintained to the same cities from Neenah, Menasha, Appleton, Kimberly, Combined Locks, Kaukauna and Green Bay. The commission also ordered a rate from Kalamazoo to Joliet, Ill., 2 cents lower than the rate from the Wisconsin cities.

The new paper mill of the Westminster Paper Mills, Ltd., at New Westminster, B. C., Canada, will be completed in November, according to information from M. F. Herb, one of the officers, who is in Appleton disposing of stock in the concern. He will leave for the west in the near future. Mr. Herb spent part of last week at Beloit, inspecting tissue machines made by the Beloit Iron Works.



JOBBERS' ASSOCIATION, HELD AT KARATSONYI'S HOTEL, GLENWOOD, L. I., THURSDAY, AUGUST 17

Editorial

Vol. LXXV New York, August 24, 1922 No. 8
FIFTY-FIRST YEAR

Paper Imports Continue Small

The figures just issued by the Department of Commerce at Washington, D. C., of the export of paper for the month of June, which are the most recent figures available, afford little encouragement that foreign trade in paper will show any considerable improvement in the near future.

The figures for June in fact show a small decrease as compared with May, the figures for the former month being only $2,124,214 and for the latter $2,167,536. The great decline that has been taking place in recent months in the quantity of paper sent abroad is even more noticeable when the figures for the year ending in June of this year and last are compared. For the current year the figures amounted only to $20,668,535, while for last year they reached the total of $56,551,518.

News print paper, however, was one of the few varieties of paper to show an increase, the figures for the month amounting to $264,214 as compared with only $225,456 for May and $73,670 for June of last year. The figures for the twelve months' period ending with June were $2,047,642 as compared with $4,614,859 for the same period last year.

The exports of wrapping paper were valued at $192,441 as compared with $188,930 for May. The export of wrapping paper for the six months ending with June amounted to $1,117,538.

The exports of writing paper for June were $93,625 as compared with $92,795 for May. For the six months ending with June they amounted to $584,661.

The exports of toilet paper for June were $51,116 as compared with $66,456 for May. For the six months ending with June they amounted to $268,036.

The exports of paper board and straw board for June were valued at $203,451 as compared with $208,879 for May. For the twelve months' period ending with June they amounted to $1,681,721 as compared with $4,891,917 for the same period last year.

The exports of paper bags for June were valued at $86,487, as compared with $80,283 for May and $42,409 for June of last year. The exports of paper bags for the twelve months ending with June were valued at $885,338, as compared with $1,934,090 for the same period last year.

The imports of paper showed a slight increase for June, the figures being $7,343,252, as compared with $7,158,402 for May and $6,168,911 for June of last year. The imports of paper for the 12 months ending with June amounted to $85,121,313, as compared with $98,757,656 for the same period last year.

The imports of news print for June were valued at $5,889,695, as compared with $5,649,320 for May and $4,928,573 for June of last year. The imports of news print for the 12 months period ending with June were valued at $71,382,737, as compared with $81,842,012 for the same period last year.

The imports of rags for June were valued at $230,595, as compared with $195,208 for May and $63,692 for the same period last year. The imports of rags for the 12 months period ending with June were valued at $2,939,055, as compared with $5,558,488 for the same period last year.

The imports of all other varieties of paper stock were valued at $359,621, as compared with $284,912 for May and $162,913 for the same period last year. The imports of other varieties of paper stock for the 12 months period ending with June were valued at $3,121,612, as compared with $5,182,984 for the same period last year.

The imports of mechanical wood pulp for June were valued at $401,454, as compared with $278,868 for May and $221,786 for June of last year.

The imports of mechanical wood pulp in the 12 months ending with June amounted to $5,484,945, as compared with $12,146,697 for the same period last year.

The imports of unbleached sulphate pulp for June amounted to $1,585,014, as compared with $855,531 for May and $1,017,361 for June of last year.

The imports of unbleached sulphate pulp for the 12 months period ending with June amounted to $13,595,266, as compared with $15,489,153 for the same period last year.

The imports of unbleached sulphite pulp for June were valued at $1,239,408, as compared with $979,747 for May and $731,689 for June of last year.

The imports of unbleached sulphite for the 12 months ending with June amounted to $17,373,416, as compared with $30,393,567 for the same period last year.

The imports of bleached sulphate pulp for May were valued at $72,986, as compared with no imports at all for May and $41,463 for June of last year.

The imports of bleached sulphate pulp for the 12 months ending with June amounted to $421,599, as compared with $1,220,120 for the same period last year.

The imports of bleached sulphite pulp for June were valued at $1,275,947, as compared with $1,198,360 for May and $1,498,245 for June of last year.

The imports of bleached sulphite for the twelve months ending with June amounted to $13,154,322, as compared with $16,941,676 for the same period last year.

The Broken Package Evil

The Paper Trade Association of Philadelphia is making commendable progress in solving the "broken package evil" which has been a thorn in the side of paper merchants throughout the country for years past and which has been increasingly disturbing under the abnormal conditions which have prevailed of late.

The Paper House of Pennsylvania in the coming issue of its bulletin will present the paper men's side of this evil to its patrons, and through the courtesy of the company the PAPER TRADE JOURNAL has been furnished with an advance proof of the matter. The article, which will appear under the caption of "Who Will Pay the Piper?" is as follows:

"The old question who is the retailer and who is the wholesaler in the paper business returns from a different direction. This time the paper merchant finds himself retailing paper on a whole-

saler's margin of profit. Beginning with the deflation in prices came an influx of small orders. The printer naturally bought paper as he needed it for work actually in hand. Nobody wanted stock on the shelves in a falling market. The inevitable result was that paper merchants selling to the general printing trade soon found themselves with an astonishingly large percentage of small orders. Less than five-dollar charges and broken-ream orders were too numerous for comfort, as every paper dealer realized that the expense and waste incurred in handling such small orders exceeded the profit on present margins. Careful analysis and distribution of costs show heavy losses on small orders, particularly on low-priced grades. In some cases losses on small orders wiped out all the profit on splendid selling lines.

"This condition cannot go on indefinitely, of course. The steadying of prices which will encourage printers to buy in large lots for their own stock to take advantage of the quantity discount may relieve the situation somewhat. Another good suggestion is that the broken package nuisance be stopped.

"Most buyers of printing would accept, for example, their printer's suggestion that an order for 10,000 forms 7¼ x 8½ be changed to either 9,000 or 12,000, as the stocks cut an even 3,000 per ream of folio. Furthermore, if the printer would say to his customer, 'I can give you 9,000, less spoilage,' or, 'I can get the paper house to open up another package, count out 150 sheets additional, wrap it up and send it without any extra charge other than the weight to allow for waste, so that I can deliver 9,000 net count,' we think we know enough of the ways of most buyers to say they would accept the first basis—ordered on quantity, less spoilage."

The committee on small order business of the Philadelphia Paper Trade Association, of which George W. Ward, of the D. L. Ward Company is chairman, has been giving this matter painstaking consideration for some time past, and its report, which is expected shortly, will be received with interest, not only by the paper merchants of Philadelphia but by those in some other paper centers as well where the "broken package evil" has already been endured altogether too long.

Protest Against Paper Freight Rates

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 23, 1922.—The Western Newspaper Union filed a complaint with the Interstate Commerce Commission against the Atchison, Topeka and Santa Fe Railway and numerous other carriers protesting that the rates charged by the defendants during the past three years for the transportation of news print paper, book printing paper, and similar grades, have been unjust and unreasonable. The Commission was requested to order carriers to award reparation and establish such rates for the future as the Commission may deem reasonable. The Western Paper Company, of Omaha, a subsidiary of the Western Newspaper Union; Midwestern Paper Company, of Kansas City, and West-Cullum Paper Company, of Dallas, are joint complainants with the Western Newspaper Union.

Strike to Retain 8-Hour Day

[FROM OUR REGULAR CORRESPONDENT]

MONROE, Mich., August 19, 1922.—Action by the Consolidated Paper Company to change from the eight-hour work day to the old two-shift system has resulted in closing certain divisions. The last men to walk out were the firemen and coal passers. The men are strongly opposed to the return to the 11 and 13 hour day.

Paper Making at New York Forestry College

The interest of the paper industry in the technical education of specialists in paper manufacture has been evident from the inception of the course at the New York State College of Forestry at Syracuse University, but it was never more forcibly demonstrated than this spring, when the mills were asked to co-operate with the college and provide places for the members of this year's class to enable them to obtain the six months' mill experience required by the course. The response was so generous that the seventeen men available for positions were quickly placed and several positions remained unfilled. Among the mills co-operating in this work are the Hammermill Paper Company, Erie, Pa.; American Writing Paper Company, Holyoke, Mass.; Foster Boxboard Company, Utica, N. Y.; Upson Wallboard Company, Lockport, N. Y.; Gould Paper Company, Lyons Falls, N. Y.; Minnesota and Ontario Paper Company, International Falls, Minn.; Newton Falls Paper Company, Newton Falls, N. Y., and The Oswego Falls Pulp and Paper Company, Fulton, N. Y. All of these mills placed the student workmen at wages which will enable them to defray their expenses and in many cases realize a substantial profit on the summer's work.

In addition to its regular program, the college offered during the month of March a short course for mill men which was attended not only by residents of New York State but by students from such distances as China. The short course was made a success by the active support of many prominent men in the industry, the following being a partial list of the supplementary instructors: John Rue, Forest Products Laboratories; A. F. Richter, Stebbins Engineering Company; Dr. Bjarne Johnsen, Hammermill Paper Company; James Cameron, Cameron Machine Company; Dr. R. H. McKee, Columbia University; W. H. Henderson, Westinghouse Electric Company; Edwin Sutermeister, S. D. Warren Paper Company, and Van Riper, E. I. du Pont de Nemours & Co.

The development of the pulp and paper course has also been greatly facilitated by manufacturers in supplying the college with detailed information regarding their equipment and processes. Practically all of the material used in the laboratories has been supplied to the college gratis by mills and supply houses, exceptionally large gifts of pulp having been made during the past year by the Hinckley Fiber Company, The West Virginia Pulp and Paper Company, The International Paper Company and The Oswego Falls Pulp and Paper Company. The Solvay Process Company has supplied the laboratories with a complete line of its various alkalies and the E. I. du Pont de Nemours & Co. was the donor of a valuable gift in the form of two-ounce samples of about fifty dyestuffs which are extensively used in the coloring of paper. The interest of the du Pont company in the development of the course has been noteworthy, the latest instance of its co-operation being an arrangement whereby Professor Libby, of the college faculty, has been enabled to spend the summer vacation in the dyestuff laboratories of this company at Wilmington, Del. The information obtained there will be included in laboratory course on the coloring of paper and presented at the college for the first time next year.

Knowlton Bros. Improvements

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N, Y., August 21, 1922.—Knowlton Brothers, Inc., have just placed on the market for sale two buildings which are now a part of the present plant. One of them has been owned by the company for 40 years and the other for 25 years. Both are across Mill street from the main plant. A brick structure, 42 by 98 feet and three stories high, formerly used as a finishing and storing building, but now rented, and the office building of two stories and 50 by 58 feet, are to go.

The finishing department has already been moved into the new structure purchased of the Harmon Machine Company and remodeled, and the offices will go across the road into the new office now ready for occupancy.

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Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

VOCATIONAL EDUCATION IN PULP AND PAPER MANUFACTURING

The following has been prepared by the Vocational Education Committee of the Technical Association for the purpose of suggesting methods of carrying on vocational education in pulp and paper mills in the United States.

Each mill and each community has its own peculiar problem which must be worked out according to the existing conditions.

Avenues of Instruction

Broadly speaking, there are three ways for the men in the mills to obtain the necessary instruction to accompany the text books which have been prepared.

(1) Correspondence schools.
(2) Classes in local public schools, either day or night.
(3) Classes in the mills.

We shall deal with each of these later.

There are in all about six types of men (each with a different viewpoint) who will be able to take advantage of the text matter. These types should be taken into consideration when forming classes. They are:

(a) Technically trained men who desire a broad practical knowledge of pulp and paper manufacture.
(b) Foremen.
(c) Skilled operators who desire promotion to better positions.
(d) Skilled operators who desire special training pertaining to their own jobs.
(e) Unskilled operators who desire to acquire skill.
(f) Boys who have entered the industry as learners, and who desire to attend part-time classes offered through the public schools.

In pointing out the means best adapted to reach these different types for carrying on this work we shall first touch briefly on those we have in the United States.

The State Boards for Vocational Education co-operating with the Federal Board are very much interested in vocational education in pulp and paper mills, as well as in all other industries, and are ready to give all the assistance they can to this industry.

The Federal Board has already made a very careful and exhaustive job analysis of the pulp and paper industry embodied in a booklet which may be obtained, free of charge, by application to the Secretary of the Committee on Vocational Education, R. S. Kellogg, 342 Madison avenue., New York City. A study of this booklet should be made by all who contemplate carrying on vocational education in their mills.

The State Boards for Vocational Education in those states where pulp and paper mills are located are actively interested in promoting foreman training conferences and are prepared to co-operate with the industry in putting on foreman training conferences. State Boards for Vocational Education in many states may assist in supplying teachers and are ready to give financial aid to local boards of education in conducting classes in vocational subjects. Write to the Director of your State Board for further information. A list of the State Directors is given at the end of these suggestions.

Some of the State Universities are preparing to offer extension courses with the text books as a basis. At this writing the University of Wisconsin has already outlined an extension course available not only to residents of Wisconsin, but also to every point reached by mail, at a very small fee.

Local schools, particularly those in paper mill districts, through their vocational departments, will be found ready to co-operate with the mills. Teachers can be supplied, schoolroom facilities offered and other assistance given. In a number of centers arrangements have been made through a co-operative agreement with the public schools and the local mills in which the boys work in the plant for half a day and attend school for the balance of the time. Or, in some instances, a two-boy-plan has been arranged, whereby one boy works in the plant for one or two weeks while his co-worker attends school. This half day plan, or the alternate two-boy-plan not only gives the boys a chance to gain a practical knowledge of the pulp and paper industry, but also provides for the completion of their high school courses. Under the heading "Methods of Organizing Classes" will be found described in detail how a course of this kind can be worked out.

In Canada there has been formed the Canadian Correspondence College, with headquarters at Gardenvale, Quebec. The School of Pulp and Papermaking is working in co-operation with the Canadian Pulp and Paper Association. The instructors who will aid in this work are men prominent in the pulp and paper industry of both Canada and the United States.

Methods of Organizing Classes

There will probably be a few men in each mill with enough ambition and fixed purpose to carry a correspondence course through to completion, but as a general rule, class instruction will reach by far the greater number.

For classes organized in the mills, teachers must be supplied and where the teachers will be drawn from will depend largely on local conditions. Frequently a mill will have in its own organization those who have had sufficient teaching experience to carry

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on the work. Teaching experience is essential and the advice of local school boards and educational authorities should be given due weight in this important matter. In the organization of classes it should be borne in mind that the text books are put out in two forms, first, five bound volumes available for reference and for the general course; second, the volume split into pamphlets which can be grouped for unit courses, such as, beating, paper machine operation, mechanical pulp making, sulphite pulp making, etc.

How the Movement Should be Supported

The success or failure of vocational education will, of course, rest largely with the mill management and executive forces. To carry on this work the owners and managers must display an active interest. The superintendent must be in sympathy with better education for his men and the foremen must realize that better trained operators will show better results in each department.

The interest of the foremen can be stimulated in no better way than through the Foreman Training Conferences put on by the State Boards with the co-operation of the Federal Board. These conferences do not aim to teach the foreman the practical details of his job. It is assumed that he knows these already. They do teach the foreman the extent of his responsibilities and show him how to use intelligent analysis of the jobs over which he has supervision.

Methods of Financing

The question has arisen many times as to how these courses should be financed, how the books should be paid for, what part the men receiving the training should pay and what part the mill receiving the results of the training should pay. Here, again, local conditions and local policy will largely govern the method.

We do not believe that, as a general policy, it is wise to offer these courses absolutely free. Humanity usually values both material and mental goods by the price it has to pay and something for nothing, to the average man, is worth just that. Mills which have gone into this have chosen various methods. In some cases, the men pay for the books and other expenses and, upon *successful* completion of the course, the money is refunded by the mill. In some cases, the mill assumes part of the expense and the men part. In some cases, the mill has assumed all expense, but experience shows that those courses are most successful in which the men have a financial interest.

In conclusion, we wish to say that the committee is ready at all times to advise with any mill on any phase of the subject and will be glad at any time, upon request, to put mills in touch with authorities, give the experience of others, or aid in any way within its power to carry on the work.

State Directors for Vocational Education

Alabama, J. B. Hobdy, Montgomery.
Arizona, M. L. Doner, Phœnix.
Arkansas, A. B. Hill, Little Rock.
California, E. R. Snyder, Sacramento.
Colorado, C. G. Sargent, Fort Collins.
Connecticut, F. J. Trinder, Hartford.
Delaware, R. W. Heim, Newark.
District of Columbia,
Florida, Shelton Philips, Williston.
Georgia,
Idaho, M. S. Lewis, Boise.
Illinois,
Indiana, E. A. Wreidt, Indianapolis.
Iowa, W. H. Bender, Des Moines.
Kansas,
Kentucky, G. Ivan Barnes, Frankfort.
Louisiana,
Maine, E. K. Jenkins, Augusta.
Maryland, Roy Dimmitt, Baltimore.
Massachusetts, R. O. Small, Boston.
Michigan, Thomas E. Johnson, Lansing.
Minnesota, E. M. Phillips, St. Paul.
Mississippi, F. J. Hubbard, Jackson.
Missouri,
Montana, G. B. Edwards, Helena.
Nebraska, C. A. Fulmer, Lincoln.
Nevada, B. H. Morrison, Carson City.
New Hampshire, Walter M. May, Concord.
New Jersey, W. A. O'Leary, Trenton.
New Mexico, John Conway, Santa Fe.
New York, L. A. Wilson, Albany.
North Carolina, T. E. Browne, Raleigh.
North Dakota, Edward Erickson, Grand Forks.
Ohio,
Oklahoma, Charles W. Briles, Oklahoma City.
Oregon, E. E. Elliott, Salem.
Pennsylvania, L. H. Dennis, Harrisburg.
Rhode Island, Charles Carroll, Providence.
South Carolina,
South Dakota, Fred E. Smith, Brookings.
Tennessee, J. B. Brown, Nashville.
Texas,
Utah, C. N. Jensen, Salt Lake City.
Vermont, Clarence H. Dempsey, Montpelier.
Virginia,
Washington, W. G. Hummel, Olympia.
West Virginia, J. F. Marsh, Charleston.
Wisconsin, George P. Hambrecht, Madison.
Wyoming, James R. Coxen, Cheyenne.

General News of the Boston Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 21, 1922.—Paper merchants report that business for the past week or two has been spotty, as has been the case for the past few months. Practically every paper merchant in this city feels that better times are not far distant. Today a peculiar situation is found here in both the paper business and in the paper box and boxboard business. Practically every mill has withdrawn its prices and will not quote except on each separate order as it comes in. Boston merchants feel that such a condition points to a rise in prices, but they do not feel that this rise will be more than 5 to 10 per cent over existing prices of today. The sales for the past two months in the various Boston houses have been fair and as good as could be expected with many of the men on their vacations, which means that those on hand have had to work harder and longer to turn in the orders necessary to keep up the volume. Better business in the fall is the slogan of the Boston merchants, but they state that they do not look for any runaway.

Stone & Andrews, on Devonshire street, report that the orders have been coming in better during the past week and that August has shown a decided improvement. They state that business is a bit dull, but that buyers are ordering because of the fear of an advance of prices.

H. H. Rutter, of the Stone & Andrews concern, is now in Maine, making his regular trip, while Walter Temple has just returned from his regular trip through Northern New England, which included New Hampshire and Vermont.

Arthur E. Ham & Sons, of 10 High street, will show all kinds of paper at the Graphic Arts Exhibition, especially featuring their Roxburge Laid, in book and cover sizes and weights. This paper has strong laid lines in colors of soft cream white, subdued rich tones of gray, buff, olive and rose, and with deckle edge on two sides makes a beautiful effective paper. Another feature of this exhibit will be the showing of revised colors of the Potomac Covers. The company has done much to further the exposition in giving the free use of its advertising space and paper and in the personal work of Mr. Ham.

IMPROVEMENTS IN METHODS OF MAKING THE HERZBERG STAIN USED IN FIBER ANALYSIS*

By Muriel F. Merritt, Laboratory Assistant Paper Section, Bureau of Standards

As difficulties and delays have been encountered in fiber analysis because of non-uniformity of the Herzberg stain employed, the present investigation was undertaken for the purpose of developing a procedure which would always give a reliable stain. This stain is essentially a mixture of a saturated solution of zinc chloride with an aqueous solution of potassium iodide and iodine. It is used in connection with the differentiation between rag, chemical wood, ground wood, and jute fibers. A correct stain should give the following colors: rag, cotton, linen, and hemp, wine red or brownish pink; chemical wood, bleached straw, and jute, colored dark blue; mechanical wood fibers, unbleached jute and straw generally a lemon yellow; esparto bluish or reddish; manila almost any shade from blue to yellow; adansonia the same color reaction as chemical wood. (**27). The differentiation of various fibers as found in paper depends on the characteristic markings of the fibers as well as color differences which are an aid but not sufficient in themselves.

According to an early account, a stain similar to the Herzberg stain has been used for many years as a botanical stain (4). In this connection it was known as Schultz's test. This type of stain was, however, developed by Herzberg for use in connection with the examination of fibers as found in paper.

Among experimenters whose works have been reviewed in the preparation of this paper, there is much variation as to the procedure used in the preparation of the stain, and hence they seem to have had trouble in obtaining uniform results. All seem to agree as to the proportions necessary but in the methods of obtaining them, they differ.

All blame for poor color cannot be placed upon the stain; variations in color may not be due to a number of causes. One author (24) gives the following as a list of conditions under which color variations are likely to occur:

1. The use of reagents of unknown strength is to be avoided. It is advisable always to work with a solution of standard composition, so that the results may be readily compared.

2. The condition of the pulp will, of course, modify the intensity of color; if the small quantity of fiber put on the glass slip is very moist it will not take so dense a color as a similar portion squeezed out fairly dry by means of blotting paper.

3. The physical condition of the fibers under investigation is an important factor in the color reaction. The appearance, for example, of cotton fibers will vary according to the treatment it has sustained.

4. The purity of the cellulose itself, has also a marked influence upon the color reactions. The truth of this statement can easily be verified by examination of specimens of imperfectly boiled wood pulp, and samples prepared from over boiled wood. The structural details are much more marked in the former case.

5. The length of time during which the fibers are exposed to the influence of the reagent, also causes the variation in color. Iodine especially, is a fugitive reagent, and fibers showing a dense color at first will gradually lose the color and eventually appear almost colorless.

It seemed advisable in view of the progress made by the paper industry during the past few years, to obtain the present experience of some of the leading manufacturers, so the following questionnaire was sent to those using the stain.

1. What formula do you find most satisfactory for the stain known as the Herzberg stain?

Formulas varied, majority used Herzberg's original formula.

2. From what companies do you purchase the chemicals used, and what is the purity of the zinc chloride, iodide of potassium, and iodine?

Five companies mentioned as sources of supplies. Very few analyzed the chemicals used.

3. Is the stain made in large or small quantities?

Made in small quantities.

4. Is the zinc chloride used as it comes from the manufacturer or is it dried?

Used as received, never dried, majority used fused stick.

5. What is the specific gravity of the zinc chloride solution before adding the potassium iodide and iodine?

Many did not know the specific gravity, one used a saturated solution at 20°C, another used a solution of specific gravity 1.8, *while another used a* 1.5 *solution.*

6. Is the zinc chloride solution acid, neutral or basic?

Five answered slightly acid, another said their zinc chloride was neutral.

7. How are the two solutions mixed?

All simply mixed and let settle. One suggested pouring the final solution in a tall cylinder to settle.

8. In what type of containers is the stain kept?

Dark bottles are used by all.

9. How long will the Herzberg stain keep and still give good color reactions?

From two weeks to two years.

The detailed procedure as adopted in the laboratory was as follows except where variations were introduced for the purpose of trying out some special cases. Chemicals were obtained from several sources; fused sticks of dry zinc chloride were purchased in small, well sealed bottles containing approximately 50 g. As a basic formula the proportions given by Herzberg were taken.

Solution A—50 g. of zinc chloride in 25 cc. of distilled water.

Solution B—5.25 g. of potassium iodide and .25 g. of iodine in 12.5 cc. of distilled water.

After decanting add a small leaf of crystal iodine.

Many stains were made and tried according to the formula given above, and a number were varied slightly one way or another. Any marked variation from the above proportions always gave poor results. The zinc chloride was used as it came from manufacturers and exposed as little as possible to the air on account of its hygroscopic properties. To each 50 g. bottle was added 25 cc. of distilled water by means of a graduated pipette. The glass stopper was then replaced and the zinc chloride allowed to dissolve. When the solution had cooled sufficiently, it was poured into a tall graduate and the specific gravity taken at 28°C and recorded. Water was added by means of a 1 cc. pipette until the desired specific gravity 1.8 was obtained.

The zinc chloride was tested for specific gravity at a certain temperature to insure uniformity.

Part of the 12.5 cc. of distilled water intended to dissolve the potassium iodide and iodine was used to rinse off the thermometer and hydrometer and original zinc chloride container. This was then mixed in the zinc chloride solution and stirred with a glass rod. When the solution had cooled to 28° C again, the solution of 5.25 g. of potassium iodide and .25 g. iodine were added. The temperature of the solution was taken after the two solutions were well mixed. This was usually about 37° C. Then the solution was poured into a tall cylinder and stoppered and placed in the dark to settle to avoid fading of the iodine. The iodine and potassium iodide should be weighed dry and covered to prevent the absorption of moisture.

The following day the clear solution was pipetted off. Occasion-

*Published by permission of the Director of the Bureau of Standards, Washington, D. C.

** These numbers refer to the Bibliography appended to this paper.

ally there was a ring of sediment at the tip. In this case it was broken up and allowed to settle to the bottom before pipetting. About 3 or 4 cc. of the solution was left above the sediment to avoid any possibility of drawing off the sedimentary deposit. The temperature and specific gravity were taken again. In most cases the specific gravity was 1.70 at the temperature of 24° to 25° C. The stain was pipetted into a black bottle, and generally a leaf of crystal iodine added as in the original Herzberg procedure.

From the manufacturer's analysis the principal impurities of the zinc chloride were iron, lead and sulphuric anhydride. The addition of minute quantities of these impurities to otherwise satisfactory stains produce marked variations in the color effects. These few tests were deemed sufficient to prove that the presence of these impurities was objectionable. If water were added in any amount above that called for in the formula the stain was so weakened as to be unreliable.

Although the difficulty was not encountered in the present work (all the zinc chloride used was acid to methyl orange) it is well to know that should basic solution be found they may be acidified with hydrochloric acid and the acid then removed by prolonged heating over a steam bath. (6). Precaution should be taken that specific gravity of 1.8 be maintained after heating.

In order to test the solutions after they were made, microscopic slides were prepared. The samples chosen for the tests were selected from routine work and the results averaged. Slides of 100 per cent rag, 100 per cent chemical wood, 50 per cent rag plus 50 per cent chemical wood, and 50-50 mitxure of coniferous wood and ground wood served for this purpose. The samples were tested primarily for color reaction by daylight and artificial light. Tests were made daily on some stains, weekly on others, until the supply was exhausted or no further fitted for use.

The following tables give the treatment and results of a number of stains. The missing numbers represent stains made with formulas, from which no satisfactory result could be obtained. Chemicals marked X were secured direct from the manufacturer and those marked Y were taken from Bureau stock and included both powder and stick zinc chloride.

The following formula and procedure are, therefore, adopted as standard:

Solution A—50 g. of dry zinc chloride (fused sticks), 25 cc. distilled water added with a 25 cc. pipette in the zinc chloride bottle, stoppered and shaken. Should be about 40 cc. of solution.

Take the specific gravity at 28° C. If the specific gravity is not 1.8 add distilled water in 1 cc. pipette until the specific gravity is 1.8, then pour into a tall cylinder.

Solution B—Take part of 12.5 cc. of the distilled water to rinse the thermometer, the hydrometer and original zinc chloride container and add to solution A. Dissolve 5.25 g. of potassium iodide and .25 g. of iodine in the balance of the water. Add B to A, stir well and place in the dark. The following day pipette off the clear portion into a black bottle, leaving 3 or 4 cc. of the solution above the sediment. Add a leaf of crystal iodine.

This stain will be found to be satisfactory for at least two weeks if it is to be used for routine analysis where color differentiations are important. Weights and measures must be observed carefully as Herzberg advised in his directions.

Table I.—Specific gravities and temperatures

Number of stain	Temperature, centigrade	Specific gravity	Additions (water) cubic centimeters	Final specific gravity	A and B before settling: Temperature, centigrade	A and B before settling: Final specific gravity	A and B after settling: Temperature, centigrade	A and B after settling: Specific gravity	Additions (Iodine)
					The "X" Stains				
1	28°	1.88	..	..	38°	..	25°	1.75	Leaf of Iodine
5	40°	1.88	5	1.8	..	..	25°	1.70	.....
6	28°	1.85	..	..	32°	1.71	25°	1.70	Leaf of Iodine
7	29°	1.88	4	1.8	39°	1.68	..	..	Leaf of Iodine
10	28°	1.85	2	1.8	39°	1.70	25°	1.70	Leaf of Iodine
11	28°	1.85	3	1.8	35°	1.70	25°	1.70	Leaf of Iodine
12	28°	1.89	..	..	34°	1.76	25°	1.75	Leaf of Iodine
13	28°	1.87	3	1.8	39°	1.66	24°	1.70	Leaf of Iodine
18	28°	1.88	4	1.8	39°	1.70	22°	1.71	1 cc.
20	28°	1.85	2	1.8	36°	1.70	24°	1.70	.....
21	28°	1.87	3	1.8	36°	1.70	24°	1.70	.....
24	28°	1.87	4	1.8	36°	1.70	24°	1.71	Leaf of Iodine
25	28°	1.87	4	1.8	36°	1.70	24°	1.71	Leaf of Iodine
26	28°	1.90	5	1.8	32°	1.70	24°	1.71	Leaf of Iodine
27	28°	1.87	3	1.8	42°	1.70	35°	1.70	Leaf of Iodine
					The X Stains				
28	28°	1.86	3	1.8	42°	1.70	35°	1.70	Leaf of Iodine
29	28°	1.86	3	1.8	43°	1.70	35°	1.70	Leaf of Iodine
					The "Y" Stains from Bureau Stock				
9	28°	1.85	..	..	36°	1.72	24°	1.70	Leaf of Iodine
14	28°	1.85	2	1.8	36°	1.70	24°	1.70	Leaf of Iodine
15	28°	1.85	2	1.8	35°	1.70	26°	1.70	.....
16	28°	1.85	2	1.8	36°	1.71	24°	1.67	Leaf of Iodine
17	28°	1.85	2	1.8	37°	1.71	22°	1.73	Leaf of Iodine

Table II.—Results Obtained

The X Stains

Stain number	Length of time stain could be used satisfactorily in weeks	Remarks
1	1	Too blue fourth day
5	2	Fair for ground wood
6	2	
7	6	
10	2	After the blue predominated
11	2	
12	2	
13	..	Blue predominated due to 52 g. zinc chloride in solution
20	2	
21	3	
24	..	Blue predominated due to 52 g. zinc chloride in solution
25	2	
26	2	
27	2	
28	2	
29	2	
		The Y Stains
9	2	
15	2	
16	2	
17	3	

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SURFACE TREATED PAPERS*

Surface treated papers are many in number and kinds. To this class of papers there belong all the chromo papers, papers whose surfaces have been specially treated for art and half-tone printing marbled papers, papers with glacéd surfaces, photographic papers and various other special papers used for different technical purposes. In the strict sense of the term papers, made with particles of gold, silver and other metals, gummed papers and wall paper in general do not belong to this classification, although the surfaces of these papers are subjected to a partial treatment, which is very similar to what surface-treated papers are subjected to. However, in the paper trade the term "surface-treated" paper is applied only to chromo-papers and papers whose surfaces have been subjected to special treatment for art printing and also to the highly finished paper that is used in printing illustrations in books and magazines. This latter sort of paper does not have a specially treated surface, but the effects are gained by a careful composition of paper stuffs, the grinding that they undergo and the treatment that the paper receives on the paper-making machine, so that the surface possesses the proper properties for printing illustrations and making of auto-types.

Photographic Paper and Photographic Tracing Paper

These papers undergo special treatment of the surface. The paper is subjected to a coating process, but the peculiar properties of the papers are due far more to the compositions of the paper stuff and to the processing carried out on the paper-making machine, and so they will not be classed in the above category. The manufacture of these papers is not very extensive and the details thereof are concerned with certain special technical empiric knowledge that makes it unadvisable to go into a discussion of the same at this point.

Chromo Papers

The most important of the surface-treated papers or coated papers are the so-called chromo papers and the art printing papers. The surface properties of such papers are improved to such a degree by forming an unbroken layer of certain powdered minerals, which are fixed to the raw paper by suitable adhesive preparations, that the finished products become particularly well-suited for certain special printing purposes.

The chromo-papers are mostly papers of inferior quality, containing a considerable proportion of mechanical wood pulp. These papers are made in increasing thickness up to the thickness of cardboard. The rather thick coating of mineral powder, which is applied to one side of the paper, can be carried out either in special factories or else in the plant where the paper itself is made. The surface finish of the paper should be very high. The high gloss that the paper possesses is always decreased to a certain extent in the printing process, due to the absorption of moisture. As these chromo-papers are used particularly in multi-color printing and also in regular color printing, they must not stretch. If this happens then one color will not be printed in the proper position with relation to the ones printed previously, and a poor picture will ensue. The rather thick top layer, which is applied to these papers, must not tend to shear off, it must not crack or tear, and during the printing process it must not crumple up. Likewise, it must not remain sticking to the electroplate. The thickness of this surface layer in chromo-papers presents the danger that, when the paper is bent, the layer might crack and so give rise to many fine fissures in the same. Because of the high mechanical wood pulp content, the paper is for the most part rather brittle and liable to crack easily. The color of the paper is not a pure white in the majority of cases, but a yellowish white.

*Translated from *Der Papier-Fabrikant*, 1922, pages 479-483. By Ismar Ginsberg, B. Sc., Chem. Eng.

Art Printing Paper

On the other hand, the art printing papers are coated on both sides and are frequently made in rather thin sheets, as their most important use is in the manufacture of books. For this reason, not only the raw paper, but the coatings that are applied to it as well, must possess quite a high degree of flexibility and suppleness. Furthermore, the coatings need not be so thick by any means as in the chromo-papers; on the contrary, they are so thin that they can scarcely be noticed in the section of the finished paper. For the some reason, the composition of the paper stock must be of higher grade materials and the paper must be made with greater care. Very often, raw papers which are free from wood pulp, are used for this purpose; they can be colored fine delicate shades in the stuff. The finishing of the paper is effected in various ways, and glaze can vary from a matte to a very high gloss.

Stained Papers

These papers may be included in this classification by extending the applicability of the term, coated papers. Stained papers are coated on one side and then finished off to a high gloss. The coating is colored in most cases, a process which requires raw paper of special properties. These properties are not indicated at all or only in a very slight degree in the case of chromo-papers. Better grades of paper stock must be used in the manufacture of stained papers. The color must lie on the surface of the paper only, and must not penetrate through it. Consequently, the papers must be well sized. Size must also be used to some degree in the manufacture of chromo and art printing papers. As these stained papers are used mostly for covering cardboard and pasteboard, the size should not, on the other hand, penetrate through to the undersize of the paper, and likewise it must have no bad effect either on the finish or the color of the paper. As the paper is bent, creased and folded in the course of the subsequent processes, the surface layer must be thin; otherwise, it will tear, split or shear off entirely. Thin papers are used for this purpose, which may contain quite an amount of wood pulp. In this case, however, only the very best grades of mechanical wood pulp must be used, as any splinters, bundles of fibers which have not been opened up properly, knots, etc., exert a very bad influence on the color coating, injure the glaze on the paper and give rise to the formation of spots, due to the fact that the paper is not sized properly at these points and the color accordingly breaks through.

Metallic Coated Papers

These papers must also be made from material which possesses certain special properties. The original paper, from which the metallic coated product is manufactured, is mostly thin and contains a high percentage of wood pulp. In the case of gilt papers (golden yellow) brown wood pulp paper is used to good advantage, as it possesses a high degree of flexibility and toughness, particularly in thin sheets. Furthermore, this sort of paper is absolutely free from acidity, which is an important factor in the manufacture of gilt papers. In the case of white papers as well, it is very important to see that they are free from acidity, chlorine and other metals which might attack the powdered metallic coating. It must be remembered that these metallic-coated papers are made from base metals, which all have a tendency to oxidize in the air with resulting change in color; when acids and other corrosive agents are present in the underlying paper, then this tendency is considerably increased.

Velour Papers

The manufacture of velour papers is much similar to that of metallic-coated paper. Instead of a coating of metallic powder on the surface of the paper, a fine, wool dust, which is colored by a special process, is distributed over the surface, which is coated

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with a suitable adhesive so that the textile material is fastened tightly to the paper. An essential point in the manufacture of these papers, as well as in that of the metallic-coated papers is that the size, used in the manufacturing process, must not penetrate through the paper. Tearing or splitting of the surface of such papers is scarcely to be feared.

Treatment in Coated Paper Manufacture

Coated papers must be made from paper stuff, which is mixed and treated in a special manner, so that the product can stand up against the peculiar conditions which it is subjected to. This is true particularly in the case of cheap papers, which must be made with a considerable proportion of wood pulp, but which, nevertheless, must have the proper degree of transparency, a surface which is not porous, a slight amount of stretch and a high degree of imperviousness. Under these conditions the greatest care must be taken in making the proper choice of wood pulp. If the plant is in the position to make its own wood pulp, then this factor in the manufacture can be controlled without much difficulty, but if the wood pulp is bought on the market, there is always the danger of irregularity in the quality. The purchase of the proper kind of wood pulp is, therefore, a very important factor in determining the success of the manufacturing process of making coated papers.

Quality of Wood Pulp for Coated Paper

Wood pulp, which is as free from ash as possible, which is made from logs which are not too old, but which are freshly cut and almost entirely clean and free from all bark, should be used in the manufacture of coated papers. All knots, which are found in the logs, must be bored out very carefully even at the cost of loss of wood, as it is just the splinters from such knots that are the cause of ugly spots on the paper, especially when the paper is made thin.

Grinding of the Wood Pulp

Only artificial stones are used in grinding the wood pulp. These are the only means of producing such an absolutely homogeneous stuff that is required for the manufacture of coated papers. There must be no splinters of any kind in the ground product; otherwise the color and the size will penetrate through the texture of the paper, particularly in the case of the thin papers used for art printing. This condition would cause spots, which would render the paper totally unfit for use. To remove these splinters, very careful screening must be carried out with fine screens, the openings in which must not exceed one millimeter. The Biffar mill is advantageously used in this process, as it combines the operation of screening and refining in one apparatus. The mill operates continuously; it first screens out the coarse particles and then refines them until they can pass through the sieves. A wood pulp that is prepared in this manner can, as may be expected, be used in still larger proportions in the manufacture of coated papers without any danger of spoiling the quality of the same.

Treatment of the Cellulose

The cellulose, intended for the manufacture of coated papers, is always treated in a kollergang, as in this case as well there must not be present any bundles of fibers. According to the color and the grain of the product, semi-bleached cellulose can be used for this purpose in various proportions; soda cellulose can also be used for this purpose. Whenever considerable strength is required in the coated paper, a large proportion of soda cellulose is used. These coated papers are used to a considerable extent in the printing of stamps, such as are used for revenue purposes on cigar boxes, etc. In this case the paper must meet rather severe conditions, as the paper stuff must be absolutely pure, free from all spots; it must print well with all sorts of colors. The coating is mostly white and comparatively thick, in any case thicker than the coating on art printing paper, but not so thick as in the chromo papers. Furthermore, just as in the latter case, the coating is applied to one side of the paper only. Such raw papers, which are indicated for the manufacture of stamp and multi-color printing papers, are by no means so easy to make, as the required properties oppose each other to a certain degree. For example, while coated papers, which are used in multi-color printing, must possess as little stretch as possible, so that in the printing process the colors will be printed in the proper places in the design so that a whole picture is obtained with parts that do not overlap; the stamp papers are, however, required to stretch to a slight degree, so that they do not split or tear in the stamping process. These two opposing properties can, however, be obtained simultaneously in the finished product, if a strong tough paper stuff is used and worked in the proper manner to produce the desired results.

Use of Old Paper

The use of old paper, which must be used for this purpose with great care, may also be recommended to a certain extent, as it gives the paper stuff properties which are very desirable in coated or marbled papers. In the first the old paper must be carefully sorted; all dirty, oily and fatty pieces must be separated out. The treatment of the paper must be carried out in a kollergang, and in certain cases in the pulping machine as well. In the case of hard-sized papers, particular attention must be paid to the removal of all knots in the material produced by the edge runner. Whatever little filling materials are used, must be of the best quality, the highest purity and must be put through the finest washing and levigation. The best method of using these fillers is to first work them up into a thin milk in a special container and then to strain the same into the hollander through a very fine sieve. Exactly the same care must be exercised in carrying out the coloring of the paper stock, whether the color is for the purpose of just producing a slight tint in the paper or when the color is employed to make a distinctly dyed coated paper. In all cases the coloring matters must be easily dissolved—mineral colors are not usable for this purpose. The solution of color, very much diluted, is fed into the hollander through a fine sieve.

The Treatment in the Hollander

The hollander must be built strongly and have a good circulation, so that the paper stock is mixed as thoroughly as possible. It is advisable to allow the finished material from the hollander pass through a conical stuff mill (Jordan). The rotary knot catcher was found to be the most efficient of all the various types of machines which were used for this purpose. It is essential that this machine do not possess two wide slots between which the paper stock passes. The shaking action in the apparatus must not be too vigorous, as otherwise it is easily possible for knots to be forced through these slots.

On the Paper Machine

The paper stock, diluted, about 150 times, is then worked on the paper machine. The formation of froth in the diluted paper stock must be prevented by all means, as the coated paper must not show any foam spots. For this purpose the fourdrinier machine can be used. The wire must be shaken just a little and must not run too fast, about 75 to 80 meters per minute, according to the weight of the paper that is being made on the machine. The flow of the paper stuff must be uniform and quiet. The formation of the sheet and the felting are carried out in the usual manner. A pitch of the wire up to 20 centimeters has a favorable effect on the quality of the paper made. In order to produce a paper which will have as smooth a surface as possible, it is necessary to use care with the press rolls. Neither the wire sieve nor the felt must make any marks on the paper.

Surface coated papers, especially of the type that is used for art printing which have a thin coating, must have an absolutely smooth, hard surface and a clear unclouded look through. Consequently, these requirements must be fulfilled not only by the proper selection of materials and the proper treatment of the raw products,

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prior to their delivery to the paper-making machine, but the paper-making machine itself must be operated in such a manner as to be conducive of the attainment of these qualities in the paper.

The machine must have three wet presses, of which the third is a reversing press. These presses must be kept in the best possible trim, so that the action on the paper is as uniform as possible. The rubber rolls must not have too hard a covering.

In order to obtain the necessary properties in the paper, as far as its stretch or tension is concerned, the pull on the paper in the machine should not be too great. The paper should be stretched only so far that it does not hang down and no wrinkles in the same are formed. Especially in the case of thin papers, when the tension in the paper-making machine is too great, small tears will appear in the paper without any difficulty. At first these are barely perceptible, but in the further processing of the paper, these tears or fissures in the texture of the same are widened and finally the entire width of the paper is torn asunder, and the product is entirely spoiled or else its value is reduced very considerably. Similarly, when the tension on the paper is great, the difference in the stretching, which the paper receives in the horizontal and the cross-wise directions, is much greater than that when only a slight tension is employed. Of course, the composition of the paper stock has also a very important bearing on the degree of this difference. Rag fibers stretch more in this respect than wood pulp or other cellulose materials. These rag fibers stretch more in the width than in the length, a phenomenon which may be observed in every cotton belt, which becomes shorter when wet, while the fibers swell up. The same state of affairs is found in the paper web. In this case, as well, the individual fibers lie predominately in the length, so that the influence of the stretching in the width of the paper web is more marked than in the direction of the length. Beating the paper stock for a short time only in the hollanders cannot be resorted to in the production of surface-treated papers, as is employed in the manufacture of papers which are not subjected to any longitudinal tension at all in the paper-making machine, for the reason that the surface-treated papers require a considerable degree of mechanical resistance, especially when they are used for printing stamps.

The slitters must give a good clean cut, which must, above all things, be free from dust. The rolls must be wound tightly on the spools, without it becoming necessary to reroll the material.

As has been mentioned at the beginning of this article, the coating of chromo and art printing papers is much like that of the coating of colored papers in many respects, as both the white mineral powders in the surface-treated papers and the variegated colors in the colored papers are mixed with a binding agent to produce a pulp, which is then applied to the surface of the paper. The same machines are used to apply this paste in both cases. The hand-operated surface coating process are now no longer in use. Special machines are used for this purpose, which can be used to good advantage in the commercial application of the process, because they have attained a high degree of perfection. They will produce a surface treatment, which is absolutely uniform and which cannot be secured in the hand-coated papers with even the most skilled labor. Many different machines and devices are used for this purpose; however, at this time no further space will be devoted to them, except to name a few types, such as color machines, application devices, drying arrangements, roll machines, calenders for glazing the finished paper, stamping machines, marbling machines, etc.

Colors Used in the Manufacture of Surface Treated Papers

Pigments are the most important dyes used for this purpose. Some of these coloring matters are of mineral origin, which are obtained by grinding or precipitation; likewise, the so-called lake colors are used considerably in this manufacture. By lake colors is meant various aniline and vegetable dyestuffs combined with alumina, which in this condition possess the same properties as the pigments. Paint colors and dye liquors are used less often. In the manufacture of art printing and chromo-papers kaolin, satin white, blanc fixe (barium sulphate) are used according to the quality that it is desired to produce in the finished paper. Blanc fixe or baryta is particularly well suited for the production of pure white surface coatings on paper, and for this reason these papers are often called baryta papers. These mineral coloring materials are used in the finest degree of sub-division and are mixed to a paste with suitable binding agents or adhesive substances. The most important of these adhesives are animal glue and particularly casein, which in the past few years has been used in ever-increasing quantities. However, artificial binding agents are also employed for this purpose. These are mostly prepared from starch, while gum, starch pastes and dextrin are used in smaller amounts. When casein is used in the production of coatings on paper, the coating can be given a certain degree of hardness and be made waterproof by the action of formaldehyde or chromium salts, when the material is subsequently exposed to light, as these chemicals render the albumen of the casein and of the animal glue as well insoluble in water.

Surface Treating Machines

The coating mixture, which has first been suitably prepared and compounded in kneading and mixing machines, is now applied to the surface of the paper in surface-treating machines. These machines form the most important link in the entire process, as the success of the product will depend to a large degree on the manner in which the paper is coated in these contrivances: Cylinder color machines and cylinder coating machines have found much favor in this industry. These machines are very well suited for the manufacture of paper that is treated on one side only. In this apparatus the device, which feeds the coating mixture on the paper, is perhaps the most important part of it. An arrangement, which has been used quite universally up to the present time, consists of a trough, which is filled with the coating mixture and in which a roll turns. This roll takes up the mixture and carries it to a vertical felt, which in turn transfers the coating mixture to the paper web. The operation of this arrangement proceeds regularly and is one of the many different ways in which the coating mixture is applied to the surface of the paper through the means of felts, rolls and brushes. However, inasmuch as the coating composition has quite a long way to travel from the trough to the paper web, this arrangement is not suitable for use with mixtures which must be kept at a certain elevated temperature during the coating process. Moreover, the color easily runs down and dries on the comparatively long felt, making it gritty and full of clots of dried color.

Applying Thin Coatings on Paper

Thin coatings are produced on paper by means of the apparatus which is described in the following. The one horizontal felt in this machine is made to pass through the trough. It takes up the coating composition and transfers it rapidly to the paper web. Inasmuch as this arrangement can be regulated only at the commencement of the operation, it is unsuited for the application of thick mixtures and colors, as well as of sensitive coatings. When it is not desired to change the color in the coating mixture, then a simplified arrangement may be used, in which a felt jacket is drawn over the under roll. For vari-colored papers or marbled papers an arrangement is mostly used in which a color cloth is wound around the under roll. In this case, however, there is always present this danger, that when the color trough is well filled the color will tend to run under the felt cloth and then be pressed through the felt itself. This is avoided by the use of a regulating roll or cylinder but in this case the length of the felt is increased again, so that the color must pass over quite a space and suffer cooling before it reaches the paper web. Accordingly, in cases where the color must be applied to the paper in the hot condition, this arrangement cannot be used. There

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are still many more variations of these devices and contrivances for applying the color or coating mixtures to the paper web, but these machines differ from one another mostly in the arrangement of the felts and the regulating contrivances. In the manufacture of art printing papers, in which thin coating compositions are employed machines provided with rapidly rotating brushes are also used, but these possess the disadvantage of spattering the mixtures, so that it is necessary to provide devices for protecting the paper which would otherwise be spoiled.

The Drying Machines

The coated paper now passes to the drying system. This drying apparatus is provided with a suspension device, which makes it possible to lead the surface-treated paper, hung in great loops, through the drying space. The paper cannot come in contact with the ground and is prevented from cracking by this contrivance. Directly under the roof of the drying room there are arranged two parallel, exactly calibrated, endless chains, which pass over sprocket wheels and which are supported on a number of carrying rolls. Another endless chain is connected with this pair. The latter chain has an inclined upward movement and carries angular pick-up devices at definite intervals. Round supporting rods lie in a dome-shaped container. These rods move down by their own weight, and are grasped by the pick-up devices in the chain and are lifted up with it to the top of the drying room. The paper, which moves forward from the color machine, aided by a traction device, is taken up by one of the carrying rods, and as the latter are moved upwards fastened to the pair of pick-up devices attached to the parallel chains, the paper is carried into the so-called drying lofts. The rods are now transfered from the inclined pair of endless chains, which carry them to the top of the building, to the horizontal endless chains, running along the length of the drying loft at its very top. In this way the paper is carried along in a large number of loops. When the carrying rods reach the end of the building they fall off the chains and into a container while the paper passes over a roll to the winder where it is rolled up into rolls. The time that is required for the drying of the paper, is primarily dependent on the temperature of the drying loft; consequently, the latter must be provided with fans and heating apparatus. When it happens that the paper dries slowly, it is necessary for it to remain in the drying chamber for quite a long time. As the construction of a very low drying loft is impractical and uneconomical, an arrangement is devised whereby the paper is made to travel a considerable distance within the drying lofts in retracing its tracks and following a sinuous course.

Improvement in the Machines

Various improvements have been made in these machines from time to time. The traction device, which moves the paper, is now mostly equipped with pneumatic traction rolls, which are able to pull out of the coating machine both thin and average thick papers without any danger of the papers tearing. The apparatus used for rolling up the paper after it has been dried has also been considerably improved. It is now made in such form that it will even roll up wavy paper into rolls which are absolutely free from creases. The paper web is subjected to tension by means of an adjustable system of carrying rolls and is fed to the winder at a uniform rate of speed. A double friction pulley of a very sensitive type, provided with a hand wheel for adjustment and regulation, makes it possible to wind the rolls tightly and loosely. The tension roll exerts a uniform pressure on the paper. The winding apparatus is driven by pulley and belts directly or through intermediary gears. The latter arrangement is best suited for winding heavy rolls of paper.

Apparatus for Art Printing Papers

Special apparatus is used for winding up rolls of art printing papers. These special constructions are purposely intended to prevent slipping of the paper. A pulling drum, provided with two spur wheels, which is encircled by the paper in S form, provides a safe carrying of the paper under rather high friction.

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All-Water Route for Sulphur to Watertown

WATERTOWN, N. Y., August 21, 1922.—An all-water route for sulphur shipped to paper mills in this valley may become an established fact instead of a dream, if plans now under contemplation are carried out. Investigation of the proposition is already under way and possibilities will soon be established.

Much sulphur is marketed through New York, and it is proposed to bring it through the Barge Canal, up through the Oswego division to the lake and thence by barge to Sacketts Harbor, or possibly Black River Bay points further inland. A representative of a canal shipping company has just been in Oswego investigating the facilities at that point for handling cargoes of sulphur destined for the Dexter mills.

It is understood that officials of the Dexter Sulphite Pulp and Paper Company have opened negotiations and that the facilities at Oswego have been found satisfactory. Upon arrival at that port the canal boats will be towed to Sacketts Harbor. If it is found practical, the cargoes will be lightered in scows and taken directly to the Dexter plant at the mouth of the Black river. Otherwise, it is believed rail shipments to mills in this district might be advantageously made from Sacketts Harbor.

It is figured that this water route would greatly reduce the transportation costs on sulphur and thus the cost of making paper. This idea is but one phase of the old proposition to canalize the Black river valley to carry all cargoes to Watertown and Carthage and all mill towns along the river.

Consider Standards in Grading Pulpwood

UTICA, N. Y., August 21, 1922.—Representatives of the big wood pulp mills of the state met in the Italian room of Hotel Utica, at Utica, Tuesday afternoon of last week and formulated standards for grading pulpwood. The specifications and standards will have to be approved by the different mills before they will be put into effect.

The International Paper Mill, St. Regis, Hammermill, Sherman Paper Company, Champlain Realty Company, Newton Falls Paper Company and the Diana Paper Company were represented at the meeting.

The assemblage Tuesday drew up specifications covering three grades of pulpwood which can be used as a guide for the purchase and sale of pulpwood for New York mills. The question of employing an official check sealer for the purpose of settling possible disputes between buyers and sellers of pulpwood was considered.

American Writing Distributors in Conference

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., August 21, 1921.—A large number of leading paper merchants from every section of the country, members of the Eagle-A service houses, were in conference on Thursday and Friday of last week at the general office of the American Writing Paper Company in this city. John T. Wolohan, vice-president of the company, and Carl F. Lincoln, general sales manager, had charge of the meetings held during the conference.

A review of the past year was given by George A. Galliver, president of the company, and the workings of the Service House plan was outlined by Mr. Galliver. The paper merchants and the officials of the company expressed complete satisfaction with the progress being made under the plan. Joseph A. Borden, director of the General Service department of the company, and W. Van Hinkle, assistant director at the Chicago office, were present at the meetings.

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MODERN WASHING SYSTEM FOR WASTE PAPER RECOVERY

By Anton J. Haug, Nashua, N. H.

The manufacture of paper from waste papers has been much discussed recently, and the processes and apparatus employed are certain to command much interest on account of the financial success which is shown by present, up-to-date waste-paper recovery plants.

A basic feature in the operation of such plants, for securing large and lasting returns is, of course, the use of efficient, well-designed machinery which has proven its value.

Use of Three-Cylinder Washer

The tendency to take advantage of a continuous process has become well-marked in waste-paper recovery, and much attention has been given to the three-cylinder washer, which authorities call "the ideal type of washing machine."

The only drawback in the use of the ordinary cylinder washer was its rather crude construction. Engineers have been at work, however, perfecting this machine to a point where the most scrupulous practical, as well as scientific, man will feel satisfied as to its superiority.

Furthermore, by the addition of other suitable machinery, the work of the cylinder washing machine has been even further improved, and the stock which has been washed in the new system possesses an unusual brightness and cleanliness.

New System Operating in Leading Mill

A system similar to that shown in the cuts is in operation in one of the leading mills in this country, and undoubtedly will soon attract much attention.

Description of System

Figure 1 is an elevation of the new washing system, and Fig. 2 is a plan of the same.

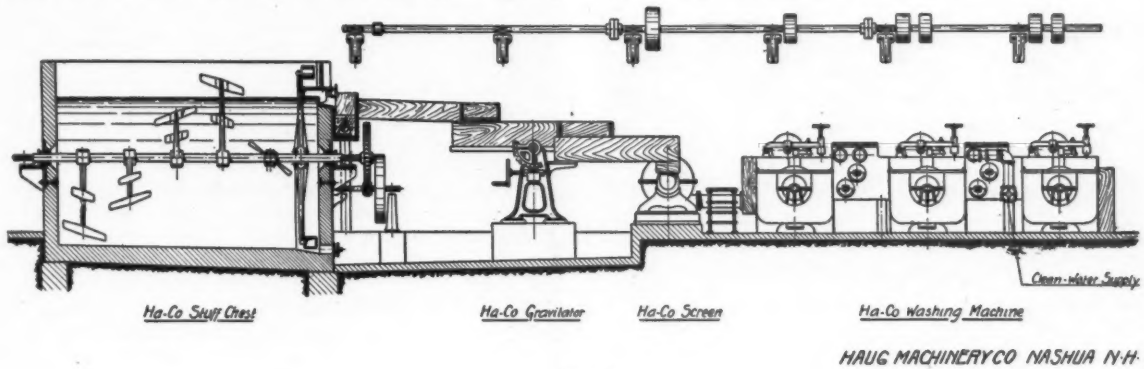

Fig. 1

Stuff Chest and Stock Buckets

At the extreme left of the drawings, is a stuff chest and stock pump, combined, which makes it unnecessary to use a separate stock pump. The agitators in this stuff chest are of the latest type, and give a very thorough agitation and mixing, with a minimum power consumption.

At one end of the machine is a bucket wheel, the buckets of which are scientifically designed and elevate a constant quantity of stock, irrespective of the liquid level in the chest. With a small hand-wheel, the quantity of stock which the buckets discharge can be regulated from the platform on the side of the chest. The buckets will elevate very heavy stock without difficulty, use less power than a pump, and the whole arrangement is extremely simple.

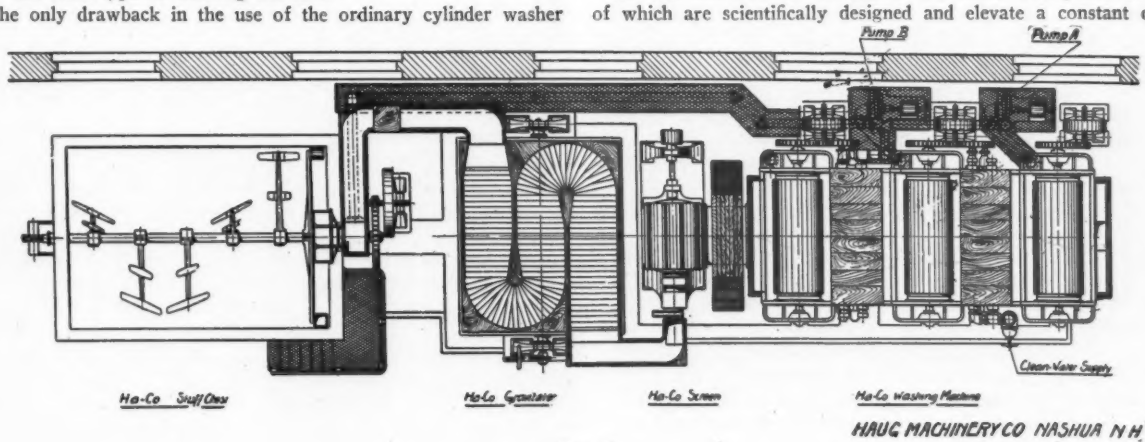

Fig. 2

The buckets deliver the stock into a spout where it is thoroughly mixed with water.

(From the platform mentioned above, a view may be obtained of the operation of the entire system.)

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Gravitator

Next, the stock passes through the gravitator, which removes fine, heavy dirt, such as sand, pins, etc., and fine, floating dirt, including cinders, too fine to be removed by the screen.

The gravitator replaces the crude, old-fashioned rifflers, and is designed so that one man can clean it out in five to ten minutes. The setting of the dirt-retaining parts is the result of many experiments, and makes it possible to clean the stock more thoroughly and in much less space than with the old rifflers.

Screen

The stock then passes through the screen, which removes the rest of the dirt and foreign matter. From the screen, the stock enters the washing machine.

Washing Machine

The washer, shown in the cuts, has many new features, which increase its capacity, make it more foolproof than any other similar machine, and simple to control.

The four-point waste water overflow gives the cylinders a maximum capacity.

The new set-in cylinder bearings add to the rigidity and stiffness of the molds, and at the same time, make the overall dimensions smaller than usual. No bearings run in water; all are lubricated by self-oiling devices.

The stock which is removed from the liquid by the cylinders is picked up by the couch rolls and the dirty water is pressed out of it. These rolls are spirally wound (not jacketed) in a new way, and have a permanently soft, elastic surface, which saves the wires and has a remarkable faculty for picking up stock. With the improved couch roll support, the perfectly round surface of the couches can be preserved indefinitely. Moreover, this new support makes it impossible for the operator to use uneven pressure on the couches.

The pressed-out stock drops into an agitating and mixing trough, which is equipped with special, very efficient agitators, where the mats of stock are broken up and diluted with water.

The standard washer consists of three cylinders and two agitating chambers.

Economical Use of Water

The water consumption is small, on account of the economical way in which the wash water is handled. 80 per cent to 90 per cent of the ink is removed in the first cylinder. This water from the cylinder is not used again for washing. The water from the second cylinder is pumped, by pump B, to the stuff chest, where it is used for thinning the stock delivered by the buckets. The water from the third cylinder, which is, of course, the cleanest, is pumped by pmup A into the first agitating trough and here used as thinning water. The only place where clean, fresh water is used is in the final washing operation in the last agitator trough.

Complicated Mechanism Avoided

The entire mechanical equipment has been standardized, and all complicated mechanism has been eliminated. No special attendant is needed, since the entire system is continuous and automatic, requiring little care after it has been started, and *one man* can easily start it.

Low Power

The power consumed is comparatively very small—a factor which has been an important influence in the adoption of such systems.

Summary of Advantages

The advantages of the system described may be summed up as follows: (1) Simple to control; (2) Small power; (3) Small quantity of water consumed; (4) No special attention required; (5) Cleaner and brighter stock.

EXPERIMENTS WITH RUBBER LATEX IN PAPER-MAKING

By Frederick Kaye

The latex supplied contains about 30 per cent of actual dry rubber as weighed after coagulation and about 3.5 per cent of ammonia. Therefore the essential condition for its use in paper-making is its extensive dilution with water before addition to the beaten pulp. The more it is diluted the more effective it is.

It is necessary to keep the vessels containing the latex well sealed until it is to be used.

It is advisable to take out a pint or more and put into a stoppered bottle for hand-made tests. Such an amount will be sufficient for a great many experiments.

For example—If 10 cc. of latex containing 3 grams of rubber be diluted to 100 cc. and then 10 cc. of this solution be further much diluted and added and mixed with 500 grams of wet pulp we should, after coagulation, be able to make 50 grams of paper containing 0.6 per cent of rubber in the dried paper and the experiment can be repeated in any ratio of rubber content. The coagulant may be alum with or without rosin size.

The range of commercial experiments is very wide and until experience has been gained it is best to proceed with caution.

While a paper made to contain 1 per cent of rubber will often give the required result many experiments on a commercial scale have been successfully put through with latex to give as low a rubber content as 0.1 per cent and 0.2 per cent on the dried paper. For example, common wrapping made from exceedingly cheap waste paper has been much improved with rubber latex to give a percentage of rubber as low as 0.2 per cent. To do this one-fifth of a gallon of latex was diluted with, say, 10 gallons of water and added slowly to 300 lbs. of beaten material in the beater, as the beaten pulp was moved round in the beater.

The diluted latex must be passed through a fine sieve or cloth bag, etc., to remove dirt or any particles of coagulated rubber.

It is important that in the case of soda pulp the alkalinity is overcome.

To make one ton of paper to contain 1.0 per cent of rubber approximately 8 gallons of latex, containing 30 per cent of rubber will be required. This must be proportionately well diluted as set out above and added slowly to the moving pulp in the beater.

If the paper is to be tub-sized the ruber latex may be coagulated by the addition to the latex-treated pulp of sufficient alum or magnesium sulphate, and in some other cases of relatively small amounts of such acids as acetic acid. After the action of the coagulant for sufficient time, until the water in the beater becomes relatively clear the material is transferred to the stuff chest and passed over the papermaking machine in the usual manner. If the paper is to be engine sized the rubber latex may be added before, or after, the addition of the size and alum. In these cases sufficient alum must be added to overcome the ammonia and to coagulate the rubber. The contents of the beater may be just faintly acid in reaction. With a sulphite pulp a less quantity of alum may be needed.

In many cases I add the rubber latex before the sizing process. To get a good water-repellent paper with relatively small amount of rubber ordinary sizing methods must be adhered to as well.

As each paper maker will only have a few gallons of latex for the first experimental tests it will perhaps be best to arrange to do three or four experiments with, say, 300 lbs. beatings rather than use the whole in one experiment.

CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Sulphite Manufacture and Equipment

The Reaction Between Iodine and Sulphurous Acid.—R. H. Macauley. *Chem. Soc. Trans.*, cxi, 552-556 (March, 1922).—Sulphurous acid in quantitatively oxidized to sulphuric acid by decinormal iodine without the separation of sulphur. The intermediate formation of the yellow compound $SO_2.HI$, which occurs in solutions of moderate concentration, has no influence on the final result. The low results obtained when sulphurous acid is exposed to the air during the titration are due entirely to evaporation of sulphur dioxide, the amount of atmospheric oxidation being negligible. Sodium sulphite solution is more readily oxidized than sulphurous acid; consequently atmospheric oxidation is a disturbing factor when sodium sulphite is titrated with iodine. Since the reaction between sulphurous acid and iodine is not reversed under the state of dilution obtaining in volumetric analysis, the addition of sodium carbonate to neutralize hydriodic acid is unnecessary; and since a sulphite solution is so quickly oxidized it is not necessary to allow a time interval for such oxidation by iodine to be completed.—A. P.-C.

Preservation of Starch Solution.—N. Kano. *J. Chem. Soc. (Japan)*, xlii, 9745 (1921); *Chem. Abs.*, xvi, 1055 (Apr. 10, 1922). Alcohol, ether, acetone, camphor, toluene, phenol, chloroform, glycerol, naphthalene, carbon disulphide and hydrochloric acid were tried as preservatives for starch solution for use in iodometric titrations. The most satisfactory preservative is hydrochloric acid (0.5 cc. of twice normal acid to each 50 cc. of starch solution), when the titration is to be done in acid medium, and carbon disulphide (one drop to each 50 cc.) when in neutral medium.—A. P.-C.

Sulphite Waste Liquor Lactone.—S. V. Hintikka. *Pappers Trävärü-och Industritidskrift for Finland*, No. 10, 150 (1921); *Chem. Abs.*, xvi, 491 (Feb. 10, 1922).—The author repeated B. Holmberg's experiment (See *Extraction of Sulphite Waste Liquors with Ether and Benzene* this journal, lxxiii, No. 14, 40, Oct. 6, 1921) using birch and aspen woods, but failed to obtain the crystalline lactone reported by Holmberg. It may be that this compound is characteristic of the sulphite waste liquor from pine wood.—A. P. C.

Process of Recovering Solids from Waste Pulp Liquors.—U. S. A. Patent 1,396,028, Nov. 8, 1921.—Hot waste pulp liquors are concentrated and cooled by "self-evaporation," further quantities of water are then frozen out and the concentrated liquor is dried in the usual manner.—A. P.-C.

High Grade Sulphite Pulp.—Eng. Patent 170,964, E. Bronnert, Dec. 21, 1921.—Wood is cleaned, chipped, and treated with dilute sulphuric acid under pressure, drained, and neutralized. The wood lignin is thus decomposed and subsequently dissolved by boiling in known manner with calcium or calcium and magnesium bisulphite under pressure, yielding a nearly pure alpha-cellulose particularly suitable for making pure viscose and cellulose acetate.—A. P.-C.

Process of Making Wood Pulp.—U. S. A. Patent 1,413,716, F. K. Fish, Jr., April 25, 1922.—The chips are steamed, placed under vacuum, treated with superheated water to dissolve out the water soluble constituents and melt the resins, placed under partial vacuum, treated with hot acid liquor under pressure, treated with cold water as soon as the hot liquor has been removed, and finally washed and bleached as usual.—A. P.-C.

Soda and Sulphate Manufacture and Equipment

The Use of Waste Lime for Fertilizer Purposes.—Oskar Lecher. *Chem. Ztg.*, xlv, 794-795 (1921); *Chem. Abs.*, xvi, 308 (Jan. 20, 1922).—Analysis of the lime obtained after treatment of straw with milk of lime under 3 to 4 atmospheres shows that the content of nitrogen, magnesia and phosphoric acid are too small appreciably to increase its fertilizer value, but there are no substances harmful to plants. The soluble silica (6.16 per cent on the air-dried sample) advantageously increases the absorptive power of the soil.—A. P.-C.

Process of Recovering Solids from Waste Pulp Liquors. See E.

Pulp Treatment and Drying—Operation and Equipment

Hydraulic Presses in Paper and Board Mills.—A. Lambrette. *Papeterie*, xliv, 206-210, 242-253 (March 10 and 25, 1922).—A discussion of the various methods of modernizing old pressing equipment or of adding to it, in the most economical and efficient manner.—A. P.-C.

Paper Manufacturing and Equipment

Maintaining Basis Weights of Paper.—Parker K. Baird, Inland Empire Paper Co., Millwood, Wash. *Paper Trade J.*, lxxiv, No. 15, 185-191 (April 13, 1922); *Paper*, xxx, No. 7, 32-37 (April 19, 1922).—A description of the system of records used successfully at the Inland Empire Paper Mill.—A. P.-C.

Process for Treating Waxed Paper Stock.—U. S. A. Patent 1,410,739, S. H. Dunwell, March 28, 1922.—The waxed stock is placed with water in a beater having a vertical shredding roll with teeth at one end of the midfeather and a vertical beater roll with acting bedplate at the other end, the two rolls being connected together by means of a belt and driven together. Means are provided for heating the stock either directly or indirectly. Sufficient hydrochloric acid is added to decompose the size and aluminum compounds in the stock, and the stock is heated above the melting point of wax to be removed (*e. g.* 150° F. for paraffined stock). The freed liquid wax rises to the surface and is removed by a trough-like skimmer and filtered into a tank. After treatment in this beater, the stock is dewatered and then treated in a second beater with an alkaline solution, *e. g.*, soda ash.—A. P.-C.

Continuous Pulp Extractor for Beaters.—U. S. A. Patent 1,414,703, L. T. Murphy, May 2, 1922.—The stock is withdrawn from the beater by means of centrifugal force as it leaves the roll and is then passed through a rotary screen to separate the fine from the coarse stock.—A. P.-C.

Felt Guide for Pulp and Paper Machines.—U. S. A. Patent 1,414,940, F. Ford, May 2, 1922.—The device comprises a suction box in contact with the felt. The suction box is connected to a suction line which includes a water column at the bottom of which is a reciprocatable member, the position of which is controlled by the effective weight of the column due to fluctuations in pressure in the suction line. This member regulates the angular relation between the felt and a supporting roll whereby the felt is caused to creep edgewise on the roll to correct any displacement.—A. P.-C.

Means for Harmonizing the Rotations of the Couch Roll and the Breast Roll.—U. S. A. Patent 1,410,856, F. G. Warburton, March 28, 1922.—The patent practically covers an extension of the Harland Interlock Drive to cover driving the couch roll and the breast roll by two separate electric motors suitably regulated so as to make them run in harmony.—A. P.-C.

The Paper Machine Hood as an Investment.—H. S. Taylor and H. T. Baker, Management Engineering and Development Co., Dayton, Ohio. *Pulp and Paper*, xx, 271-273 (April 6, 1922); *Paper Trade J.*, lxxiv, No. 13, 48-50 (March 30, 1922); *Paper*, xxx, No. 5, 12-14 (April 5, 1922).—A discussion of the function of the paper machine hood in removing the moisture laden air over the dryers of the machine. Figures are given, based on actual operations in paper mills, showing that the cost of installing the hoods is not more

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than half the yearly saving in fuel consumption which they effect. In the case of the Briner or other economizer systems, the differential of removal with and without hoods is greater with the system than without it.—A. P.-C.

Manufacture of Sheets or Webs of Hydrated Fibrous Cellulose.—Eng. Patent 173,971, C. F. Cross, Jan. 4, 1921. *Paper,* xxx, No. 6, 14 (April 12, 1922).—Sheets or webs of fibrous cellulose which has been hydrated as described in Eng. Patent 126,174 of May 17, 1918 (treatment with caustic soda and carbon disulphide) are made on a paper machine. The sheet is drained by treatment with a reagent capable of neutralizing the alkalinity and decomposing any xanthate present, thus causing a reversal of the hydration process. Suitable reagents are weak acids, such as acetic or sulphurous acids, or easily dissociated salts of stronger acids, such as aluminium sulphate or zinc chloride or sulphate, or sulphite waste liquor. The reagent is sprayed on to the web at a suitable point on the machine, *e. g.,* before the suction boxes or between the first and second press rolls on a Fourdrinier, or after moulding in the manufacture of moulded articles.—A. P.-C.

Method of Mounting Stone Press Rolls.—U. S. A. Patent 1,413,436, J. W. Vedder, April 18, 1922. Also Can. Patent 219,084, May 30, 1922.—With the ordinary method of mounting of stone press rolls, if the bearings become hot the roll is liable to crack. This is overcome by mounting the stone roll on a tubular metal shaft, preferably of forged steel, the heat radiating surface of which is sufficient to dissipate the heat produced at the bearings. The shaft may be water cooled.—A. P.-C.

Safety Device for Paper Winders.—U. S. A. Patent 1,412,994, W. E. Beadle, assignor to Nekoosa Motor and Machine Co., April 18, 1922.—The patent covers a device for preventing the distance between two rolls of paper, one of which is being wound and the other unwound, from falling below a fixed minimum value. As soon as this distance is reached the paper on the roll being wound is automatically torn.—A. P.-C.

Recent Developments in Papermaking.—T. D. Nuttall. *Paper,* xxx, No. 6, 7-11, 16 (April 12, 1922).—An outline of recent improvements in paper machine construction, such as increase in width and speed of machines, suction roll, automatic paper carriers, automatic changing of reels, paper machine drives.—A. P.-C.

Driving Device for Paper Winders.—U. S. A. Patent 1,404,284, B. E. Fougner, Jan. 24, 1922. Also Can. Patent 215,430, Jan. 31, 1922.—Same as French Patent 505,614. See *Pulp and Paper,* xix, 483, May 5, 1921.—A. P.-C.

Slitting and Roll Winding Machine.—*Paper,* xxx, No. 8, 12 (April 26, 1922); *Paper Trade J.,* lxxiv, No. 17, 30 (April 27, 1922).—Brief description of Camachine Simplex Type 40, Model BM, which has been designed especially to meet the requirements of the paper box manufacturers.—A. P.-C.

Manufacture of Pliable Fiber Board.—U. S. A. Patent 1,406,410, J. C. Peabody, Feb. 14, 1922.—The beater furnish is treated with 3 to 15 per cent (on the weight of dry fiber) of "cellulose in a liquid state." Dry sheets prepared from this material are soaked in a solution of sodium chloride or calcium chloride or a mixture of both until thoroughly saturated, removed from the solution, and dried. It is claimed the material thus prepared has all the characteristics of leather (soft, tough, pliable, not disintegrated by water) and is particularly suited to the manufacture of boots and shoes. It is of great tensile strength even when wet. —A. P.-C.

Means of Applying Paste to Paper.—U. S. A. Patent 1,412,897, B. Selby, April 18, 1922.—A. P.-C.

Method of and Apparatus for Impregnating Paper with Phenol Condensation Products.—U. S. A. Patent 1,414,462, L. T. Frederick, assignor to Westinghouse Electric & Manufacturing Co., May 2, 1922.—A. P.-C.

Method of Connecting and Corrugating Papers.—U. S. A. Patent 1,410,879, F. H. Bither, assignor to American Box Board Co., March 28, 1922.—Narrow strips of paper (trimmings from rolls, etc.) are overlapped and passed between corrugating rolls, which are set very close together (at most one thickness of paper apart), so that the overlapping strips are subjected to enormous pressure practically crushing the two thicknesses of paper to the thickness of one. At the same time the rollers are heated to 250° F. or more—A. P.-C.

Hydraulic Presses in Paper and Board Mills. (Lambrette). See G.

Articles Produced from Pulp and Paper

Composition for Coating Paper Containers.—U. S. A. Patent 1,414,256, F. Coates, assignor to Federal Products Co., April 25, 1922.—One part of gelatin is soaked for two hours at room temperature in two parts of water, the mixture is heated to 120° F., and a mixture of one part of glucose and half a part of glycerin added. To this is slowly added a previously prepared mixture of 2 parts of water, 1.5 parts of glucose, 0.5 parts of glycerin, and one part of acetone. The resultant mixture (at a temperature of 110° F.) is applied in any desired manner. The resultant compound dries very slowly, has practically no tendency to sour, makes a highly efficient preservative and possesses an elasticity which makes it specially suitable for coating paper cans, etc.—A. P.-C.

Cardboard Can.—Can. Patent 215,340, H. G. Thomson, Jan. 24, 1922.—A. P.-C.

Cardboard Box Making Machine.—Can. Patent 214,685, W. C. Ritchie & Co., assignee of M. J. Milmoe, Dec. 13, 1921.—A. P.-C.

Paper Cup Forming Machine.—Can. Patent 214,401, W. W. Bevan and C. E. Clarke, Nov. 29, 1921.—A. P.-C.

Cardboard Carton.—Can. Patent 214,474, Duncan Lithographing Co., Ltd., assignee of F. B. Close, Nov. 29, 1921.—A. P.-C.

Waterproof Fibrous Tubes.—U. S. A. Patent 1,396,021, F. A. Burningham *et al.,* Nov. 8, 1921.—Fibrous materials, such as paper tubes, are impregnated with molten sulphur, which is allowed to cool and crystallize on the fiber. The material is then further impregnated with a solution of phenol condensation product, which, after evaporation of the solvent, is polymerized by heat.—A. P.-C.

Waterproofing Fibrous Substances.—U. S. A. Patent 1,396,060, G. A. Richter *et al.,* Nov. 8, 1921. Fibrous materials impregnated with sulphur are further impregnated with a water-repellent compound, which is solid at ordinary temperatures, *e. g.,* bitumen.—A. P.-C.

Planning and Construction

Use of Creosoted Wood Block Floors in Pulp and Paper Mills.—Lambert T. Ericson, Jennison-Wright Co., Toledo, Ohio. *Pulp and Paper,* xx, 182 (March 9, 1922).—The chief advantages of creosoted wood block floors are: impervious to acid solutions, can be installed with waterproof bituminous binders forming a waterproof surface, stand up under the heaviest and most severe conditions of trucking, afford comfortable footing, non-conductors of heat, are easily repaired. They should be designed and installed by those who are expert in that line; but the ordinary workmen around plants can be easily instructed sufficiently for the general run of maintenance.—A. P.-C.

List of Abbreviated and Full Titles and of Addresses of the Journals from Which Abstracts Have Been Prepared for This Issue

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Chem. Ztg.....*Chemiker Zeitung.* Walter Roth, Cöthen, Germany.
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Kunststoffe .....Kunststoffe. J. F. Lehmanns, Paul Heyerstr. 26, Munich S. W. 2, Germany.
Paper .....*Paper.* 251 West Nineteenth St., New York City.
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Pulp and Paper.....*Pulp and Paper Magazine of Canada.* Gardenvale, Que., Canada.

JAMES ROSENBERG, Pres. L. W. BOWMALL, Vice-Pres.

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Vortex
Drinking Cups

Obituary

Frederick Bertuch

After a brief illness at his country home at Babylon, L. I., Frederick Bertuch, a special partner in the firm of J. Anderson & Co., of 21 East 40th street, New York, died on August 17.

He was born in Offenbach, Germany, February 18, 1856. Coming to this country in his early boyhood, he attended private schools in Hoboken, N. J., and his first business experience was with export houses. In 1883, while connected with the importing house of H. de Maziere, in which he was interested, he began the importation of wood pulp and was the first importer of groundwood pulp in this country. In 1885 he left this concern and founded the Norwegian Wood Pulp Cumpany, of which he was president. Under his guidance, this company gradually expanded its business until it was importing all grades of sulphite and soda pulps. In 1891 Mr. Bertuch organized the firm of Frederick Bertuch & Co., with his father as a partner, and this firm succeeded to the business of the Norwegian Wood Pulp Company. Also at this time Mr. Bertuch was gradually extending his trade among the paper mills, and his business increased steadily. His father retired from the firm in 1908. The firm represented exclusively in this country the Kellner-Partington Paper Pulp Company, Ltd., of Manchester, England, with mills in different European countries.

Mr. Bertuch was always noted for his strict integrity, conservatism and his quiet and unassuming manner. He was an indefatigable worker and the proud possessor of a high order of business integrity which he seemed to radiate all through his business life. In March, 1908, he was awarded the decoration of the Order of St. Olaf by the King of Norway. This was conferred upon him in appreciation of his efforts in promoting Norwegian interests in the United States. On January 1, 1912, he retired from active business, retaining an interest as special partner in the firm of J. Anderson & Co., which succeeded that of Frederick Bertuch & Co.—the senior member of the firm of J. Anderson and Co. having been connected with him in business since 1883. Mr. Bertuch, while in business, was for a number of year the president of the Association of American Wood Pulp Importers and active in the national legislation affecting the wood pulp industry. At the time of his decease he was a member of the Klopstock Lodge, No. 760, F. & A. M., of Stapleton, S. I. Also a member of the New York Athletic Club and the Uptown Club of Manhattan.

On January 1, 1923, he was to retire as special partner in the firm of J. Anderson & Co., desiring to be relieved of all business connections. He is survived by his wife, Minnie Davis Bertuch, a relation on the maternal side of Jefferson Davis of Confederate fame and on the paternal side a descendant of the old Colonial and well-known Bradford family. The funeral services took place at noon, August 21, in the Lutheran Church of the Holy Trinity, 51 Central Park West, New York City, and interment was held at Woodlawn Cemetery. His old friends acted as honorary pallbearers, among them being: William Bianchi, Emil Seidenberg, G. A. Edler, Charles A. Gardner, James Rogers, Henry Rogers, Henry Gluck, Dr. Viggo Drewsen, Joseph H. McCormick, Edward Milton Adams, Morris Gintzler and George von Karlowski.

Bradley C. Bauter

GRAND MERE, Ind., August 21, 1922.—Grand Mere has lost a highly esteemed citizen and the Laurentide Company, Ltd., one of its most valued employees in the death of Bradley C. Bauter, who passed away Monday morning, August 14. A hurried operation by Dr. F. A. C. Stringer, a specialist, performed the preceding night was to no avail. Intestinal obstruction was given as the cause of his death.

Mr. Bauter was born in Laforgeville, N. Y., on October 29, 1870. He was graduated from Watertown High School and then learned the trade of machinist with the Watertown Steam Engine Company. He was employed a number of years with the Bagley & Sewall Company, paper machine builders of Watertown, and subsequently with the New York Air Brake Company of Watertown. For the last fifteen years he was with the Laurentide Company in various capacities in the Repair and Maintenance Department and for some time has been Superintendent of this department.

He was very popular with his men and universally well liked. He was a member of the Watertown Royal Arcanum Lodge; Exempt Firemen's Association of Watertown; Jefferson Union Lodge No 124, Independent Order of Oddfellows, Watertown, N. Y.; Watertown Lodge No. 49, A. F. & A. M., also Watertown Chapter and Commandery and Media Temple of Mystic Shrine. He leaves a widow, Nellie, of Grand Mere, and a number of relatives in New York State.

Interment ceremonies were held on August 17 at Watertown, N. Y., under the auspices of Watertown Commandery, Knights Templar, following a brief funeral service in Grand Mere.

William B. Bitting

PHILADELPHIA, Pa., August 21, 1922.—William B. Bitting, more widely known as "Pop Bitting" and who for the last twenty-five years has represented the Thomas W. Price Company on the road throughout Eastern Pennsylvania, New Jersey, Delaware, Maryland, and the District of Columbia, died at his summer home, Pitman Grove, N. J., on Thursday of last week. The interment was in Mt. Peace Cemetery, Philadelphia, services being held in the afternoon from his late residence, 403 Chambers avenue, Camden, N. J. Bitting was almost four score years of age. He had a splendid record of service in the Civil War. Before his connection with the Price company, a quarter century ago, he served for an equally long time with the old Nescochague Manufacturing Company, Philadelphia, and J. E. Linde & Co., New York. He was popular wherever he called, and was perhaps the best known and certainly one of the oldest paper salesmen in point of continuous service traveling out from Philadelphia. He is survived by a widow, daughter and grandchild.

Carl Bache-Wiig

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Me., August 21, 1922.—Carl Bache-Wiig, chemical engineer and sulphite expert, for nine years a resident of Portland, died suddenly at Randolph, N. H. Mr. Wiig had just returned from Wisconsin when stricken in the summer home of his family.

Mr. Bache-Wiig was a native of Norway, where he received a thorough education. He had mastered his profession of chemical engineering as applied to the paper industry and his services had been sought for a number of years by paper manufacturers in the United States and Canada. Recent connections were with the International Paper Company, at Glens Falls, N. Y., and the Brown Company, at Berlin, N. H. He was a member of the Masonic fraternity and is survived by his wife, Bertha M., two sons, Carl O. and John, and two daughters, Sara, of Portland, and Ruth, who has a secretarial position with the League of Nations at Geneva, Switzerland.

Robert W. Hemphill, Sr.

YPSILANTI Mich., August 19, 1922.—Robert W. Hemphill, Sr., who, with Cornelius Cornwell, started the Peninsular Paper Company, died at his home here last week at the advanced age of 84 years. Mr. Hemphill had resided in Ypsilanti for 72 years. He was one of the oldest and best known bankers in Michigan.

He organized the Ypsilanti Woolen Mill Company and the Ypsilanti Flouring Mill Company and was also instrumental in the development of the Electric Light and Power Company and in constructing the street railway.

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New York Trade Jottings

W. G. MacNaughton, Secretary of the Technical Association of the Pulp and Paper Industry, leaves Thursday of this week for Springfield, Mass., where he will confer with George Williamson, President of the Association.

* * *

Isaac Eisenberg, secretary of the Hudson Bag Company, 516 Fifth avenue, New York, will return from Europe the latter part of this month on the *Berengaria*. Mr. Eisenberg and his family have been spending their vacation abroad.

* * *

The Nashua Gummed and Coated Paper Company has recently added a Package Sealing Division, consolidating this with the other divisions and locating in enlarged quarters at 291 Broadway, New York. The telephone numbers are Worth 1928, 1929 and 7205.

* * *

M. L. Macauley Company, Inc., 30 East 42d street, announces that W. B. Kearney has joined its selling force. In addition to calling on the merchants with the product of the mill which the Macauley Company represents, Mr. Kearney will devote his efforts to several lines of fine papers now being handled by the firm.

* * *

John Caroll, formerly superintendent for the Hercules Paper Company, and now in charge of the Ft. Alice plant of Whalen Brothers, pulp manufacturers of Vancouver, B. C., represented in New York by Robert Dollar & Co., of 11 Moore street, is among the New York trade visitors of this week. Mr. Caroll is touring the Eastern states, visiting users of pulp manufactured by the Whalen Company.

* * *

Under date of August 16 the Traffic Bulletin of the National Association of Waste Material Dealers, Inc., Times Building, New York, has been published. An item of interest is the warning to rag importers that an affadavit from them will be required certifying that their consignment of goods contains no narcotics, liquors, or other contraband articles. This step has been taken by the United States Appraisers Office, 641 Washington street, New York, to put an immediate stop to the smuggling of drugs and alcohol in foreign rag bundles.

* * *

Robert Gair, Brooklyn paper manufacturer, saved $30,000 when the Newark police captured Harry Monet, who left Sing Sing to serve his country in the hazardous rôle of spy in Germany during the war and who then returned to his rôle of crook. Mr. Gair was among Monet's first victims, the latter having forged the name of the paper manufacturer to a check for $30,000, which, according to the police, he subsequently had certified by the Title Guarantee & Trust Company of Brooklyn. A sensational scheme had been worked out whereby two innocent messenger boys were hired to act as "go-betweens" in the forgery plots. The police say Monet has confessed his guilt.

* * *

The Conference Committee on Loading, formed by the Merchants' Association of New York, has negotiated with interested parties and has secured an agreement that the following rates will be charged. Loading from platforms of warehouses, 1½ cents per 100 pounds; loading from sidewalks, piers, docks, or cars, 2½ cents per 100 pounds. It has also been agreed that shippers and consignees shall be free to load their own freight if they desire and will not be subjected to improper treatment on the part of the loaders if they do their own loading. If shippers decide to discontinue loading by their own employes the dock loaders will do the work if the change is permanent, but where consignors decide to load a part of their own freight on certain occasions, the regular loaders can decide whether they will load other shipments for such consignees. This agreement is for 90 days after which time it may be continued indefinitely or terminated on 30 days' notice.

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In the 32 grades of Felts and Jackets we can match your most exacting demands. Tell us the kind of paper you desire to make, and we will send you samples of felts that will economically serve you and help you to produce paper at lowest cost per ton.

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WESTERN PAPER MAKERS CHEMICAL CO.

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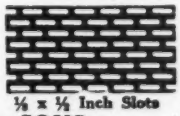
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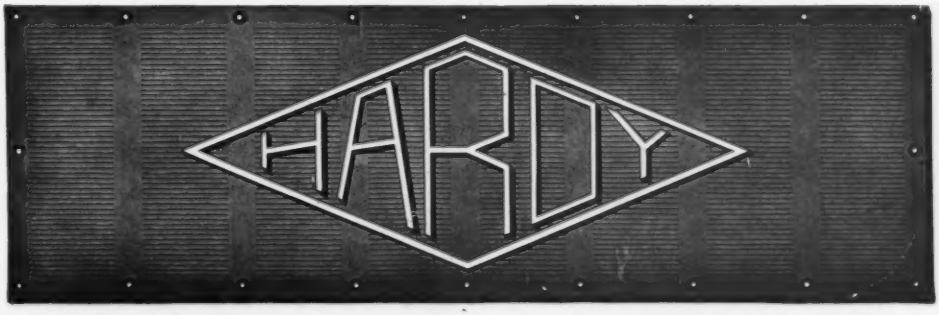


New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, August 23, 1922.

Now that the bulk of coal difficulties have been lifted from the shoulders of paper manufacturers through the strike settlement, there remains but the one obstacle in the path of smooth running, well-oiled fall business—the rail tieup. Of course several months will be required to readjust distorted fuel conditions and get every industry back in working order again with coal at its former price. It has even been predicted that the strike will have the effect of bringing about an entire winter of high coal. If there were only some prospects of a let-up in the stand taken by the rail workers, however, manufacturers could almost overlook the additional fuel cost in view of the excellent prospects evidenced in practically every other industry in the country.

Representative bonds and stocks have during this month touched new high levels for 1922. Retail sales in New York City were larger the first two weeks of this month than for any other similar period of time this year. Building is increasing in leaps and bounds, the contracts awarded in twenty-seven Northeastern states amounting to over $350,000,000 for last month. A gain of 60 per cent has been made in this industry over the first seven months of 1921. Crop prospects are better than they have been in many years and Bradstreets' records show that there has been a decrease of 5.3 per cent in commercial failures in the last month. There were 589 new companies incorporated, each of which had an authorized capitalization of $100,000 or over, as opposed to 514 new companies in June.

On the whole the industrial outlook is particularly bright. In many branches of the paper industry, where the popular impression has been that business has been artificially bolstered up due to the abnormal strike conditions, there will probably be no "let-down" in demand even after these difficulties have been cleared away. Good business is justified on its own merit for the coming season. It does not need the prop of artificial strike demand to keep it from sinking to the panicky levels it has reached in the last twelve months.

News print continues to hit the high spots and there has been absolutely no evidence of a cessation in demand as a result of the recent increase in prices to four cents a pound. Current rumor among news print concerns has it that this fall and winter may bring still much higher prices than have prevailed thus far in 1922. Publishers are consuming more of the commodity each week to all appearances and in view of the combined coal shortage and rail situation tending to retard contract withdrawals, another rise for the last quarter may well be expected.

Book is enlivening to a considerable extent and prices are steady to firm. Publishers are entering the market on a larger scale than ever before and it is freely predicted that September should usher in one of the most progressive seasons ever known in the book paper industry. Jobbers' stocks are still low and as yet no variations in price have been recorded.

Fine papers are beginning to assert themselves again in that there is a steadily growing demand for ledgers and both low and medium priced bonds. The better grades are still inactive, but when signs of a business revival in these lines crop up in the early fall there is no doubt but that merchants will again stock up to normal capacity to cover the demand.

Tissue mills are reported to be sold up straight through the next two or three months and are even passing up orders due to the fuel and rail situation. Most tissue manufacturers have withdrawn price quotations or have retained them on a purely nominal basis. Raw materials are practically impossible to secure in adequate quantities and producers are at a loss to find means of shipping their finished product.

In comparison with many of the other grades of paper, kraft is rather slow moving at the present time. This situation is one, however, that may be attributed to the summer months rather than to any particular industrial obstacle. The market is in a firm condition, however, and prices are, in general, higher than they have been for some time. As a rule wrapping manufacturers are hesitating before taking orders for either kraft or manila paper for shipment very far in the future. The majority are contracting only on their ability to produce the commodity and are guarding themselves amply in this manner.

The brisk demand for paper box-board still continues and the coal strike has evolved a seller's market with paper box manufacturers buying freely and worrying only about the source of their fall's board supply. New York merchants are making the proverbial hay while the sun shines in that considerably higher prices are being named during the withdrawal of quotations by producers. The unsettled conditions have placed all prices on a nominal basis.

Mechanical Pulp

Groundwood prices are steady and the New York market is characterized by an increasingly firmer tone. Dealers are watching news print go up and up and still remain in excellent demand and express the opinion that mechanical pulp will not delay long in following its example. On the whole the ground wood market is in a very soumd condition, considering the season of the year, and there is no doubt but that business during the fall and winter months will flourish.

Chemical Pulp

Consumers are absorbing regular amounts of chemical pulp, giving the market a steadiness that bodes well for a mid-summer month. Concerns handling the commodity look forward to a series of price revisions in September and report that there has been less strenuous competition from Scandanavian and other European countries in this field in recent weeks.

Old Rope and Bagging

Rope is easy for the present, No. 1 manila selling in the neighborhood of 5.75 cents a pound at shipping points. This price has even been bettered, according to several authorities. Old bagging, on the other hand, is being turned over in considerable quantities. Roofing bagging is in excellent demand at 90 cents per cwt., while No. 1 scrap is doing well at $1.10.

Waste Paper

All grades of old paper are still in very strong demand and prices are quite firm. Dealers in this city are asking as high as $2 per hundred pounds on No. 1 heavy books and magazines and up to 1.70 cents a pound for mixed books. No. 1 hard white shavings are upwards of 3.75 cents and are running a close race with new soda pulp. Dealers feel that conditions are aligning themselves for an unprecedented business this fall.

Rags

Roofing rags, the stabilizing factor in the rag situation, are being turned over in large quantities and with considerable regularity, giving the market a very firm undertone. Western dealers are reported to be asking an average of 20 cents per cwt. more on No. 1 roofing stock that the prevailing New York price of 1.30 cents a pound, f.o.b. Packers and merchants in the east are having practically no difficulty in getting rid of even the bulky grades of rags during the present active buying spell on the part of roofing manufacturers, and thus the better grades are being retained at even higher prices.

Twine

With prices fairly firm even at present, twine dealers are exceedingly optimistic over the prospects for higher prices and a booming business in early September. It has been stated that several New York twine merchants have anticipated this condition, which is only two weeks in the future, and have already raised the price on several grades of twine.

XUM

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations August 22, 1922:

	BID.	ASKED.
American Writing Paper Company, pref.	32	33
International Paper Company, com.	58¼	59
International Paper Company, pref., stamped	75	75½
Union Bag & Paper Corporation	69	71

Paper

F. o. b. Mill.

Ledgers	10.50	@	30.00
Bonds	8.50	@	55.00
Writings—			
Extra Superfine	14	@	25
Superfine	13	@	20
Tub Sized	10	@	16
Engine Sized	9.00	@	15.00
News—f. o. b. Mill—			
Rolls, contract	3.75	@	4.00
Rolls, transit	4.00	@	—
Sheets	4.00	@	
Side Runs	3.25	@	3.50
Book, Cased—f. o. b. Mill			
S. & S. C.	7.50	@	9.00
M. F.	6.00	@	7.50
Coated and Enamel	8.75	@	15.00
Lithograph	9.00	@	11.00
Tissues—f. o. b. Mill			
White, No. 1	All quotations withdrawn		
Colored			
Anti-Tarnish			
Silver Tissue			
Manila			
Kraft—f. o. b. Mill—			
No. 1 Domestic	7.00	@	7.50
No. 2 Domestic	5.50	@	6.25
Imported	6.00	@	6.25
Screenings	2.75	@	3.50
Manila—			
No. 1 Jute	8.50	@	9.00
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.50	@	5.50
No. 2 Wood	4.00	@	4.50
Butchers	4.25	@	4.75
Fiber Papers—			
No. 1 Fiber	6.00	@	6.25
No. 2 Fiber	5.00	@	5.25
Common Bogus	2.15	@	2.50
Card Middies	4.00	@	5.00
Boards—per ton—			
News	All quotations withdrawn		
Straw			
Chip			
Binders' Board			
Sgl. Mla. Lt.Chip.			
Wood Pulp			
Container			
Wax Paper—			
Self Sealing White 28 and 30 lb. basis	10.00	@	11.00
Waxed Tissue	1.40	@	1.60
Glassine—			
Bleached, basis 25 lbs.	12.75	@	13.25
Bleached, basis 20 lbs.	13.75	@	15.25

Mechanical Pulp

(Ex-Dock.)

No. 1 Imported	36.00	@	38.00
No. 1 Domestic	28.00	@	34.00

(F. o. b. Pulp Mills.)

Chemical Pulp

(Ex-Dock, Atlantic Ports.)

Sulphite (Imported)—			
Bleached	4.30	@	4.50
Easy Bleaching	2.85	@	3.10
No. 1 strong unbleached	2.50	@	2.75
No. 2 Strong unbleached	2.25	@	2.50
No. 1 Kraft	2.40	@	2.80
Sulphate—			
Bleached	3.90	@	4.00
(F. o. b. Pulp Mill.)			
Sulphite (Domestic)—			
Bleached	4.00	@	4.50
Strong unbl'chd.	2.60	@	2.80
Easy Bleaching Sulphite	2.70	@	3.10
News Sulphite	2.50	@	2.80
Mitscherlich	2.75	@	3.05
Kraft (Domestic)	2.50	@	3.00
Soda Bleached	3.75	@	4.00

Domestic Rags

New

Prices to Mill, f. o. b. N. Y.

Shirt Cuttings—			
New White, No. 2	5.75	@	6.25
New White, No.2	5.50	@	6.50
Silesias, No. 1	6.25	@	6.75
New Unbleached	9.00	@	9.50
Washables	4.00	@	4.25
Fancy	5.00	@	5.50
Cotton—according to Grades—			
Blue Overall	6.00	@	6.25
New Blue	4.75	@	5.00
New Black Soft	5.50	@	6.00
New Light Seconds	2.75	@	3.00
O. D. Khaki Cuttings	3.75	@	4.25
Men's Corduroy	2.75	@	3.00
New Canvas	7.00	@	7.25
New Black Mixed	2.50	@	2.75
Old White, No. 1—			
Repacked	6.50	@	6.75
Miscellaneous	5.50	@	6.00
White, No. 2—			
Repacked	3.00	@	3.25
Miscellaneous	2.75	@	3.00
St. Soiled White	1.40	@	1.50
Thirds and Blues—			
Repacked	1.60	@	1.75
Miscellaneous	1.45	@	1.55
Black stockings	2.90	@	3.15
Rooting Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	1.20	@	1.25
No. 3	.85	@	.90
No. 4	.85	@	.90
No. 5A	1.00		nominal

Foreign Rags

New Light Silesias	6.00		nominal
Light Flannelettes	6.75		nominal
Unbl'chd Cottons	7.50		nominal
New White Cuttings	9.50		nominal
New Light Oxfords	6.00		nominal
New Light Prints	4.50		nominal
New Mixed Cuttings	2.00	@	2.50
New Dark Cuttings	1.90	@	2.10
No. 1 White Linens	9.00	@	11.00
No. 2 White Linens	6.50		nominal
No. 3 White Linens	5.00		nominal
No. 4 White Linens	3.50		nominal
Old Extra Light Prints	2.00		nominal
Ord. Light Prints	1.75		nominal
Med. Light Prints	1.50		nominal
Dutch Blue Cottons	1.85		nominal
German Blue Cottons	1.50		nominal
Ger. Blue Linens	3.50		nominal
Checks and Blues	1.50		nominal
Dark Cottons	1.10	@	1.15
Shoppery	1.00	@	1.05
French Blues	2.00		nominal

Bagging

Prices to Mill f. o. b. N. Y.

Gunny No. 1—			
Foreign	1.00	@	1.10
Domestic	1.00	@	1.10
Wool, Tares, light	1.15	@	1.25
Wool, Tares, heavy	1.25	@	1.40
Bright Bagging	1.10	@	1.25
No. 1 Scrap	1.00	@	1.15
Sound Bagging	.85	@	.95
Manila Rope—			
Foreign	5.75	@	6.25
Domestic	6.25	@	6.50
New Bu. Cut	2.00	@	2.15
Hessian Jute Threads—			
Foreign	2.25	@	2.50
Domestic	2.20	@	2.40
Mixed Strings	.90	@	1.00

Twines

Cotton—(F. o. b. Mill)			
No. 1	.35	@	.37
No. 2	.31	@	.33
No. 3	.27	@	.29
India, No. 6 basis—			
Light	.20	@	.21
Dark	.19	@	.20
B. C., 18 Basis	.41	@	.42
A. B. Italian, 18 Basis	.51	@	.61
Finished Jute—			
Light, 18 basis	.26	@	.27
Dark, 18 basis	.27	@	.29
Jute Wrapping, 3-6 Ply—			
No. 1	.23	@	.24
No. 2	.21	@	.22
Tube Rope—			
4-ply and larger	.15	@	.17
Fine Tube Yarn—			
5-ply and larger	.19	@	.21
4-ply	.20	@	.22
3-ply	.20	@	.22
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.18
Jute Rope	.20	@	.22
Amer. Hemp, 6	.33	@	.35
Sisal Hay Rope—			
No. 1 Basis	.15	@	.17
No. 2 Basis	.13	@	.15
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, White, No.1	3.90	@	4.15
Hard, White, No.2	3.50	@	3.70
Soft, White, No. 1	3.50	@	3.65
Flat Stock—			
Stitchless	2.00	@	2.15
Over Issue Mag.	2.00	@	2.15
Solid Flat Book	1.85	@	1.90
Crumpled No. 1	1.45	@	1.50
Solid Book Ledger	2.25	@	2.50
Ledger Stock	1.90	@	2.00
New B. B. Chips	.65	@	.70
Manilas—			
New Env. Cut	2.50	@	2.75
New Cut No. 1	1.75	@	2.00
Extra No. 1, Old	1.55	@	1.65
Print	1.00	@	1.05
Container Board	.75	@	.80
Bogus Wrapper	.65	@	.75
Old Krafts, machine compressed Bales	1.80	@	1.90
News—			
No. 1 White News	1.75	@	1.85
Strictly Overissue	.75	@	.80
Strictly Folded	.70	@	.75
No. 1 Mixed Paper	.62½	@	.67½
Common Paper	.40	@	.45

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

F. o. b. Mill

All Rag Bond	35	@	40
No. 1 Rag Bond	30	@	35
No. 2 Rag Bond	18	@	20
Water Marked Sulphite	10	@	14
Sulphite Bond	9	@	12
Sulphite Ledger	12	@	13
Superfine Writing	18	@	24
No. 1 Fine Writing	14	@	22
No. 2 Fine Writing	12	@	20
No. 3 Fine Writing	8	@	12
No. 1 M. F. Book	6¼	@	7
No. 1 S. & S. C. Book	6¼	@	7½
Coated Book	8¼	@	10¼
Coated Label	8½	@	10½
News—Rolls, mill	3½	@	4½
News—Sheets, mill	3¾	@	4¾
No. 1 Manila	5½	@	6
No. 1 Fiber	5	@	5½
No. 2 Manila	4½	@	5
Butchers' Manila	4	@	—
No. 1 Kraft	7	@	7¼
No. 2 Kraft	6	@	6½
Wood Tag Boards	4	@	—
Screenings	2½	@	—
Boards, per ton—			
Plain Chip	50.00	@	55.00
Solid News	50.00	@	55.00
Manila Lined Chip	65.00	@	—
Container Line—			
85 Test	75.00	@	80.00
100 Test	60.00	@	65.00
Binders' Board	75.00	@	—
Solid Wood Pulp	1.00	@	1.10
Straw Board	55.00	@	60.00
Filled Pulp Board	65.00	@	70.00

Old Papers

Shavings—			
No. 1 Hard White	3.75	@	4.00
No. 1 Soft Shav.	3.35	@	3.50
No. 1 Mixed	1.40	@	1.50
No. 2 Mixed	1.25	@	1.35
White Envel. Cuttings	3.75	@	4.00
Ledgers and Writings	2.15	@	2.25
Solid Books	2.00	@	2.10
No. 1 Books, light	1.50	@	1.60
Blanks	1.75	@	1.85
Ex. No. 1 Manila	1.90	@	2.00
Manila Envelope Cuttings	2.00	@	2.10
No. 1 Manilas	1.20	@	1.25
Folders News (over issue)	1.00	@	1.10
Old Newspaper	1.00	@	1.05
Mixed Papers	.95	@	1.00
Straw Clippings	.95	@	1.00
Binders Clippings	.95	@	1.00
Kraft	1.75	@	2.00
New Kraft Cuts	2.00	@	2.10
Roofing Stock, f.o.b. Chicago, Net Cash—			
No. 1	29.00	@	—
No. 2	27.00	@	—
No. 3	25.00	@	—
No. 4	25.00	@	—

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Bonds	.10	@	.60
Ledgers	.15	@	.40
Writings—			
Superfine	.15	@	.20
Extra fine	.12	@	.22
Fine	.20	@	.30
Fine, No. 2	.20	@	.25
Fine, No. 3	.15	@	.20
Book, M. F.	.06	@	.09
Book, S. S. & C.	.08	@	.15
Book, Coated	.08	@	.15
Coated Lithograph	.10	@	.15
Label	.08	@	.15
News	.05	@	.07
No. 1 Jute Manila	.12	@	.13
Manila Sul., No. 1	.08	@	.08½
Manila No. 2	.07½	@	.08
No. 2 Kraft	—	@	.08½
No. 1 Kraft	—	@	.09½
Common Bogus	.02½	@	.03
Straw Board	35.00	@	45.00
News Board	32.50	@	35.00
Chip Board	27.50	@	32.00
Wood Pulp Board (Carload Lots)	90.00	@	100.00
Binder Boards—			
Per ton	$65.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	48.00	@	50.00
Slaters	54.00	@	56.00
Best Tarred, 1-ply (per roll)	1.35	@	1.50
Best Tarred, 2-ply (per roll)	1.00	@	1.15
Best Tarred, 3-ply	1.50	@	1.65

Bagging

F. o. b. Phila.

Gunny No. 1—			
Foreign	.75	@	—
Domestic	.70	@	—
Manila Rope	4.00	@	4.50
Sisal Rope	.75	@	.80
Mixed Rope	.75	@	.80
Scrap Burlaps	1.00	@	1.25
Wool Tares, heavy	2.50	@	2.75
Mixed Strings	.75	@	.90
No. 1, New Lt. Burlap	.75	@	.80
New Burlap Cuttings	1.75	@	2.10

Old Papers

F. o. b. Phila.

Shavings—			
No. 1, Hard White	4.00	@	4.25
No. 2, Hard White	3.50	@	3.75
No. 1 Soft White	3.35	@	3.50
No. 2 Soft White	2.00	@	2.25
No. 1 Mixed	1.50	@	1.75
No. 2 Mixed	1.00	@	1.25

(Continued on page 62)

XUM

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING AUGUST 19, 1922

SUMMARY

News print .....396 rolls
Printing paper .....5 cs.
Cigarette paper .....150 cs.
Wall paper.....2,080 rolls, 66 cs., 7 bls.
Hangings .....29 bls., 11 cs.
Drawing paper .....4 cs.
Filter paper.....62 cs., 12 bls., 4 cs.
Writing paper .....3 cs.
Photo paper .....15 cs.
Tinfoil paper .....23 cs.
Parchment paper .....12 cs., 2 rolls
Surface coated paper.....3 cs.
Miscellaneous paper...41 cs., 4,581 rolls, 3,052 bls.

CIGARETTE PAPER

Rose & Frank, Lafayette, Havre, 34 cs.
Rose & Frank, Paris, Havre, 26 cs.
De Maudint Paper Corporation, McKeesport, Havre, 82 cs.
Knauth, Nachod & Kühne, President Wilson, Trieste, 2 cs.
British-American Tobacco Company, Celtic, Liverpool, 6 cs.

WALL PAPER

W. H. S. Lloyd & Co., Celtic, Liverpool, 1 cs.
W. H. S. Lloyd & Co., Urbania, London, 7 cs.
W. H. S. Lloyd & Co., Lapland, Antwerp, 2 cs.
F. G. Prager & Co., by same, 2,089 rolls.
M. J. Corbett Company, Vauban, Hamburg, 5 cs.
A. Murphy & Co., Aquitania, Liverpool, 2 bls.
A. Murphy & Co., Wuerttemburg, Hamburg, 5 bls., 2 cs.
A. C. Dodman, Jr., Homeric, Southampton, 1 cs.
R. F. Downing & Co., Durban Maru, Kobe, 48 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Missouri, London, 29 bls., 11 cs.

DRAWING PAPER

H. Reeve-Angel & Co., Missouri, London, 4 cs.

FILTER PAPER

H. Reeve-Angel & Co., Missouri, London, 11 cs.
E. Fougera & Co., Homeric, Southampton, 51 cs.
J. Manheimer, Paris, Havre, 12 bls.
H. Reeve-Angel & Co., Aquitania, Liverpool, 4 cs.

WRITING PAPER

H. Reeve-Angel & Co., Aquitania, Liverpool, 3 cs.

PHOTO PAPER

J. J. Ganin, Aquitania, Liverpool, 1 cs.
Gevaert Company of America, Lapland, Antwerp, 12 cs.
Eastman Kodak Company, Missouri, London, 2 cs.

TINFOIL PAPER

Enoch Morgan & Sons, Celtic, Liverpool, 23 cs.

PRINTING PAPER

B. F. Drakenfeed & Co., Celtic, Liverpool, 5 cs.

NEWS PRINT

M. Gottesman & Co., Inc., Drottningholm, Gothenburg, 396 rolls.

PARCHMENT PAPER

F. C. Stripe, Lapland, Antwerp, 14 cs., 2 rolls.

SURFACE COATED PAPER

Gevaert Company of America, Lapland, Antwerp, 3 cs.

PAPER

U. S. Forwarding Company, Rotterdam, Rotterdam, 7 cs.
H. Reeve-Angel & Co., Verbania, London, 10 cs.
Bank of America, President Fillmore, Bremen, 723 rolls.
Bendix Paper Company, Vauban, Hamburg, 10 cs.
Republic Bag & Paper Company, Western Scout, Hamburg, 2,056 rolls.
Japan Paper Company, Oregonian, Hamburg, 7 bls.
New York *Tribune*, Yorck, Bremen, 210 rolls.
Virginia Paper Company, by same, 487 bls.
H. Reeve-Angel & Co., by same, 8 bls.
Parsons & Whittemore, by same, 2,017 bls., 111 rolls.
Bird Board & Lining Company, by same, 143 rolls.
A. Murphy & Co., Fafayette, Havre, 2 cs.
Irving National Bank, United States, Copenhagen, 349 bls.
J. P. Heffernan Paper Company, by same, 56 bls.
M. M. Cohen, by same, 125 bls., 34 rolls.
F. C. Strype, by same, 3 bls.
E. C. Melbyn, by same, 117 rolls.
Equitable Trust Company, by same, 1,187 rolls.
P. H. Petry & Co., Wurttemburg, Hamburg, 12 cs.

RAGS, BAGGING, ETC.

E. J. Keller Company, Inc., Columbia, Glasgow, 51 bls. flax waste.
E. J. Keller Company, Inc., United States, Copenhagen, 576 bls. rags.
Katzenstein & Keene, Inc., Ville de Djiboute, Marseilles, 1,299 bls. paper stock.
Katzenstein & Keene, Inc., Lafayette, Havre, 41 bls. rags.
American Express Company, by same, 11 bls. rags.
Castle, Gottheil & Overton, Lafayette, Havre, 34 bls. rags.
Irving National Bank, Western Scout, Hamburg, 44 bls. rags.
Garfield National Bank, by same, 61 bls. rags.
Goldman, Sachs & Co., by same, 135 bls. rags.
Ladenburg, Thalman & Co., by same, 62 bls. rags.
E. J. Keller Company, Inc., by same, 347 bls. rags.
Castle, Gottheil & Overton, Persier, Havre, 267 bls. rags.
D. M. Hicks, Inc., Missouri, London, 44 bls. waste paper.
Albion Trading Company, by same, 66 bls. rags.
Equitable Trust Company, Wurttemburg, Hamburg, 202 bls. rags.
Castle, Gottheil & Overton, Lafayette, Havre, burg, 115 bls. new cuttings.
E. J. Keller Company, Inc., by same, 16 bls. linen rags, 47 bls. woolen rags.
E. J. Keller Company, Inc., Seydlitz, Bremen, 683 bls. rags.
Irving National Bank, by same, 107 bls. rags.
Chemical National Bank, by same, 216 bls. rags.
F. P. Gaskell, by same, 59 bls. rags.
American Wood Pulp Corporation, by same, 111 bls. rags.
J. Spunt & Co., Balton Castle, Shanghai, 141 bls. cotton waste.
W. Barnet Sons, Paris, Havre, 257 bls. rags.
D. M. Hicks, by same, 298 bls. rags.
Equitable Trust Company, Phoebus, Marseilles, 896 bls. rags.
Basch & Greenfield Company, Celtic, Liverpool, 5 bls. rags.
Albion Trading Company, by same, 12 bls. rags.
R. F. Downing & Co., Verbania, London, 157 bls. paper stock.
Equitable Trust Company, President Fillmore, Bremen, 121 bls. rags.
Chemical National Bank, by same, 634 bls. rags.

OLD ROPE

Brown Brothers & Co., Phoebus, Genoa, 85 coils.
International Purchasing Company, Paris, Havre, 33 coils.
Brown Brothers & Co., United States, Copenhagen, 50 coils, 27 bls.
E. J. Keller Company, Inc., by same, 141 coils.

CASEIN

A. Klipstein & Co., Russillon, Havre, 100 bags.
A. Klipstein & Co., Missouri, London, 300 bags.
T. M. Duche & Sons, Boswell, Buenos Aires, 834 bags.
Atterbury Brothers, Inc., Western World, Buenos Aires, 334 bags.
Kalbfleisch Corporation, Crofton Hall, Buenos Aires, 834 bags.

WOOD PULP

Tidewater Papermills Company, Barnholm, Port Hastings, 6,910 bls.

WOODFLOUR

The Hansa Company, Vauban, Hamburg, 228 bags.
A. Kramer & Co., Inc., by same, 446 bags.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 19, 1922

E. J. Keller Company, Inc., Oregonian, Hamburg, 291 bls. rags.
E. J. Keller Company, Inc., Ninian, Antwerp, 982 bls. rags.
E. J. Keller Company, Inc., Anaconda, Rotterdam, 288 bls. rags.
E. J. Keller Company, Inc., Sonora, Havre, 90 bls. rags.
E. J. Keller Company, Inc., Sonora, Bordeaux, 280 bls. rags.
E. J. Keller Company, Inc., Hudson, Rouen, 314 bls. rags.
E. J. Keller Company, Inc., Hudson, Havre, 1,068 bls. rags.
E. J. Keller Company, Inc., Hudson, Nantes, 914 bls. rags.
E. J. Keller Company, Inc., Hudson, Havre, 113 bls. bagging.
E. J. Keller Company, Hudson, Bordeaux, 2,020 bls. rags.
E. J. Keller Company, Inc., Breedyk, Rotterdam, 138 bls. rags.
Katzenstein & Keene, Inc., Stormking, Antwerp, 776 bls. rags.
Irving National Bank, Western Scout, Hamburg, 68 bls. rags.
Mechanics & Metals National Bank, by same, 540 bls. rags.
L. H. Abenheimer, by same, 73 bls. rags.
Corn Exchange National Bank, by same, 274 bls. rags.
Coal & Iron National Bank, by same, 373 bls. rags.
Castle, Gottheil & Overton, Breedyk, Rotterdam, 792 bls. rags.
Castle, Gottheil & Overton, Hudson, Bordeaux, 369 bls. rags.
Castle, Gottheil & Overton, Stormking, Antwerp, 10 bls. rags.
Castle, Gottheil & Overton, Graciana, Middlebrough, 264 bls. rags.

BOSTON IMPORTS

WEEK ENDING AUGUST 19, 1922

Shawmut National Bank, Missouri, London, 347 reels news print.
Castle, Gottheil & Overton, Breedyk, Rotterdam, 255 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 19, 1922

E. J. Keller Company, Inc., Mississippi, Antwerp, 544 bls. rags.
M. Gotteaman & Co., Inc., Mexican, Christiania, 1,500 bls. wood pulp.

CHARLESTON IMPORTS

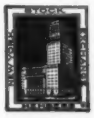
WEEK ENDING AUGUST 19, 1922

E. J. Keller Company, Inc., Magmeric, Hamburg, 346 bls. bagging.

TAYLOR, BATES & CO.

Members New York Stock Exchange
Members New York Cotton Exchange

100 Broadway, New York
Tel. Rector 1140



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The Royal Trust Company, Montreal, Authorized Trustee for the properties of Great Eastern Paper Company, Limited, Authorized Assignor, offers subject to prior sale:

Spruce logs about 5,000,000 ft. B.M.
Balsam logs about 5,000,000 ft. B.M.
Cedar logs about 4,000,000 ft. B.M.

These logs are in, or on the banks of, the Madeleine River, Gaspe County, Quebec, and are offered for sale as they lie, but the purchaser would have the use (on terms to be arranged) of such of the Company's plant as is necessary for handling the wood. All facilities will be given for the inspection of the wood and of the opportunities for its removal. The Vendor expressly stipulates that intending purchasers must satisfy themselves, and that the sale is not being made on the Vendor's representations in any way. Address Tenders to The Royal Trust Company, Montreal.

MONTREAL, *July, 1922.* CANADA

Whalen Sulphite Pulps

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BLEACHED **SWAN**
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XUM

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
TUESDAY, August 22, 1922.

BLEACHING POWDER.—While the excessive demand for bleach continues unabated, producers are reported to be sold out for several months in advance and scarcely any of the commodity may be obtained on the market. The nominal price of $1.60 per cwt. still holds and each succeeding week manufacturers' stocks of raw materials is diminishing. Considerably higher prices are predicted for the near future.

BLANC FIXE.—With a decided firming tendency, the blanc fixe market has exhibited a stronger tone in recent weeks. Dry blanc fixe is still being quoted at $75 to $85 per ton while prices on the pulp run between $40 and $50.

CASEIN.—The hectic condition of this market has caused any and all quoted prices to be regarded as decidedly nominal and almost inevitably subject to change within the week. Twenty cent casein is the order of the day and consumers with low stocks appear to be glad to get the commodity at this figure. Producers are reported to be selling casein for 1923 shipment at 14 and 15 cents a pound and available stocks of the Argentine product are so small as to be almost negligible.

CAUSTIC SODA.—Caustic is easy at 3.10 to 3.25 cents a pound, contract, on a 60 per cent basis. Spot prices at the plant average 2.50 cents.

CHINA CLAY.—A sharp advance in prices in the China Clay market is generally expected if English producers continue to have difficulty in transporting enough of the commodity to meet the heavy demand in this country. Domestic clays are selling well at $7 to $10 per ton for the washed grades and $5.50 to $8 for the unwashed while some stiffening has already been noted in the quotations of $14 to $22 for imported China clay.

LIQUID CHLORINE.—A slightly better tone appears to have crept into the chlorine market during the past week, due, probably to the proximity of the fall months. Prices, however, still cover the wide scope of 4.00 to 7.00 cents a pound, depending largely upon the container.

ROSIN.—The New York price on rosin still holds at $6.20 a barrel of 280 pounds for the paper makers' grades, E, F, and G. This price is generally regarded as firm, quotations f. o. b. Savannah, Ga., being in the neighborhood of $5.20.

SALTCAKE.—Selling around $22.00 per ton and better, chrome cake continues to stiffen in price. Both pulp and glass producers are now competing actively in the saltcake market with the result that available supplies have been wiped out and muriatic acid manufacturers are forced to waste thousands of gallons of the commodity to keep anywhere near even with the demand for the by-product. Acid cake is listed nominally at $25.00 a ton.

SATIN WHITE.—Showing a slightly better tone each week, this whitening agent is still quoted at 1.50 to 2.00 cents a pound. Chemical dealers are inclined to believe the demand will increase materially within a few weeks.

SODA ASH.—The quotations on soda ash have not varied from the price schedule for the year 1.51 cents a pound, contract. Transportation difficulties and a lack of fuel is beginning to handicap producers and retard contract withdrawals.

SULPHUR.—There are no indications that brimstone will vary either in price or demand for some time to come. The production field being controlled by so few companies, cut-throat competition is practically eliminated and quotations hold steady at $18 to $20 per ton, month in and month out.

SULPHATE OF ALUMINA.—With iron free sulphate quoted at $2.25 and more per hundred pounds and the commercial grade at $1.40, works, in bags, manufacturers in the west are practically shut out of the market. Many of their plants have been closed down due to lack of fuel and prospects are that prices will soar in the near future.

Market Quotations

(*Continued from page 59*)

Solid Ledger Stock.	2.25	@	2.50
Writing Paper.....	1.80	@	2.00
No. 1 Books, heavy.	1.60	@	1.75
No. 2 Books, light.	1.40	@	1.50
No. 1 New Manila.	2.75	@	3.00
No. 1 Old Manila..	1.50	@	1.75
Container Manila..	1.15	@	1.20
Old Kraft.....	2.00	@	2.25
Overissue News...,	.85	@	90
Old Newspaper....	.70	@	.75
No. 1 Mixed Paper.	.70	@	.75
Common Paper....	.40	@	.50
Straw Board, Chip.	.55	@	.60
Binders' Bd. Chip..	.55	@	.60

Domestic Rags—New.
Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.10	@	.10¼
New White, No. 2	.05½	@	.06½
Silesias, No. 1...	.05½	@	.06
New unbleached..	.09	@	.09½
Washables	.03½	@	.03¾
Fancy	.04¼	@	.04¼
Cottons—according to grades—			
Blue Overall.....	.04½	@	.05¼
New Blue.....	.02	@	.02¼
New Black Soft.	.03	@	.03¼
New Light Seconds	.02	@	.02¼
Khaki Cuttings...	.02¼	@	.03¼
Corduroy	.02	@	.02½
New Canvas.....	.07	@	.07½
New Black Mixed	2.75	@	3.00
Old			
White, No. 1—			
Repacked	.06	@	.06½
Miscellaneous ...	.04½	@	.04¾
White, No. 2—			
Repacked	.03	@	.03½
Miscellaneous ...	.02¾	@	.02¾
Thirds and Blues—			
Repacked	1.65	@	1.80
Miscellaneous ...	1.40	@	1.55
Black Stockings....	1.75	@	2.25
Roofing Stock—			
No. 1.....	1.00	@	1.10
No. 2.....	.90	@	1.00
No. 3.....	.80	@	.90
No. 4.....	.80	@	.90
No. 5A.....	nominal		
B.....	nominal		
C.....	nominal		

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Bonds	.06¾	@	.65
Ledgers	.07½	@	.55
Writings	.07½	@	.22½
Superfine	.15	@	.22½
Fine	.15	@	.18
Books, S. & S. C...	.07	@	.10
Books, M. F.....	.05¾	@	.07½
Books, coated	.08	@	.10
Label	.08½	@	.09½
News, sheets	4.00	@	4.25
News rolls.....	4.00	@	4.25
Manilas—			
No. 1 Manila...	$5.50	@	7.00
No. 1 Fibre	.07½	@	—
No. 1 Jute.....	10.50	@	12.00
Kraft Wrapping ...	.06¼	@	.07
Common Bogus ...	3.00	@	

Boards

(Per Ton Destination)

Chip	$50.00	@	55.00
News, Vat Lined...	36.50	@	38.50
Wood, Vat Lined..	47.25	@	
Filled News Board.	45.00	@	
Solid News Board..	42.00	@	45.00
S. Manila Chip....	52.50	@	
Pat. Coated.....	70.00	@	85.00

Old Papers

Shavings—			
No. 1 Hard White	3.70	@	3.90
No. 1 Soft White	3.30	@	3.45
No. 1 Mixed....	1.50	@	1.75
Ledgers & Writings	1.70	@	1.80
Solid Books	1.35	@	1.80
Blanks	1.70	@	1.80
No. 2 Books Light.	.70	@	.75
Folded News, overissues	17.00	@	19.00
Gunny Bagging ...	.85	@	.90
Manila Rope.....	5.75	@	6.00
Common Paper....	.62½	@	.67
Old News	.70	@	.75
Old Kraft.....	1.75	@	1.80

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.11	@	.12½
Light tinted.....	.12	@	.13½
Dark tinted.....	.13¼	@	.15
Ledgers (sulphite).	—	@	.13
Writing	.9½	@	.12
News, f. o. b. Mills—			
Rolls (carloads).	3.50	@	
Sheets (carloads).	—	@	4.25
Sheets (2 tons or over)	—	@	4.50
Book—			
No. 1 M. F. (carloads)	8.50	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	9.00	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 1 Coated and litho. 14.00		@	—
No. 2 Coated and litho. 13.00		@	—
No. 3 Coated and litho. 12.25		@	—
Coated and litho., colored 14.25		@	—
Wrapping—			
Grey	4.50	@	—
White Wrap	5.00	@	—
"B" Manila	5.50	@	—
No. 1 Manila ..	6.75	@	—
Fibre	6.75	@	—
Kraft, M. F.	8.00	@	—
M. G.	8.15	@	—

Pulp

(F. o. b. Mill)

Ground wood.....$25.00		@	37.50
Sulphite easy bleaching 60.00		@	65.00
Sulphite news grade.45.00		@	55.00
Sulphite, bleached..80.00		@	90.00
Sulphate 70.00		@	

Old Waste Papers

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut..	3.75	@	—
Soft White Book Shavings	3.40	@	3.40
White Bl'k News	1.70	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.70	@	—
Light and Crumpled Book Stock	1.55	@	—
Ledgers and Writings	1.95	@	—
Solid Ledgers....	1.95	@	—
Manilas—			
New Manila Cut.	1.70	@	1.80
Printed Manilas..	.90	@	1.00
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.90	@	—
Folded News....	.80	@	—
No. 1 Mixed Papers	.70	@	—

Domestic Rags—
Price to mills, f. o. b. Toronto.

	Per lb.		
No. 1 White shirt cuttings	.11	@	.11½
No. 2 White shirt cuttings	.06½	@	—
Fancy shirt cuttings	.05	@	.05¼
No. 1 Old whites	.04	@	—
Thirds and blues	.02	@	.02¼
	Per cwt.		
Black stockings..	2.00	@	2.25
Roofing stock:			
No. 1.....	1.35	@	—
No. 2.....	1.20	@	—
Roofing stock:			
Manila rope.....	.06	@	.06¼
No. 2.....	.01½	@	—
Gunny bagging....	1.00	@	1.25

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Sacks and Specialties

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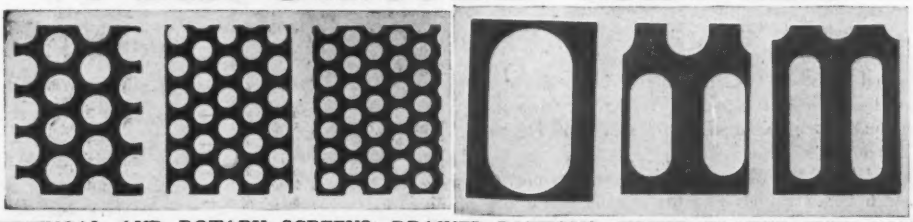

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HELP WANTED

WANTED—Two first class (sober) machine tenders on Chipboard. Two tours. State age, reference and salary wanted. Address, Box 5346, care Paper Trade Journal. A-24

PLANT SUPERINTENDENT—Experienced wanted for plant in New York City. Preferably with knowledge of Ruling Cutter and Stitching Machines accustomed to supervising manufacture of Paper Note Books, Pads, etc. All correspondence will be treated confidential. Reply giving full details outlining past experience, age, salary required, etc. Address, Box 58, 2501 World Tower Building, New York City. A-24

MILLWRIGHT WANTED in one machine mill in Middle West. Good job for the right man. Good wages, good town to live in. Address, Box 5348, care Paper Trade Journal. A-24

WANTED—First class Machine Tender, also two first class Millwrights for Container Board Mill. Permanent position for right parties. Good working conditions. No labor troubles. Reply fully stating experience, salary expected and references. Address, Box 5349, care Paper Trade Journal. A-24

EXECUTIVE WANTED as General Manager for a two machine mill making book and bond paper. Must be a practical paper maker and must have had successful experience in a similar position. This is a good, permanent position for a high grade man. Address, reply to Box 5350, care Paper Trade Journal. A-31

FOREMAN—Assistant for Toilet Paper Converting Plant at Ballston Spa, N. Y. One who has had actual experience operating machine and is capable of adjusting and setting the machines and train new operators. Must know how to handle help and get production. Apply, stating salary, length of experience, age, married or single, references, strictly confidential, write to Mr. Lampe, c/o Universal Crepe & Tissue Mills, Main office, 117 East 18th St., New York City. A-24

WANTED:

Salesman familiar with book and kraft papers. Excellent opportunity, state experience. Communications strictly confidential. Address Box 5358, care Paper Trade Journal.

A-24

TWINE MANAGER WANTED

We have an excellent opportunity for young man with education and ability who has thorough knowledge of twine and cordage business. Liberal salary to one capable of handling salesmen and increasing sales of an already large and prosperous business. Replies strictly confidential. Address Box 5341, care Paper Trade Journal. A-24

HELP WANTED

WANTED—Envelope adjuster who is competent in taking full charge of one Rotary and six Plunger Type Machines. Plant located on Pacific Coast. Good opportunity. Steady position. In application, give experience, age and salary expected. Address, Box 5347, care Paper Trade Journal. S-6

WANTED—Machine Tender on slow running fourdrinier machine making specialties. Two tour run. Give age, references, etc. Address, Box 5351, care Paper Trade Journal. A-31

SALESMEN—Calling on the jobbing paper trade, to carry our line of special brand pencils, as a side line. Write for full particulars. Peerless Pencil Co., Louisville, Ky. A-24

WANTED—Machine Tender on Straw Corrugating, eight hour shifts. Address, The Thompson & Norris Co., Brookville, Indiana. A-31

WANTED—First class reliable Beaterman on Book Papers. Steady work, eight hours, 55 cents per hour. Address, Box 5360, care Paper Trade Journal. A-24

WANTED—Beaterman for Container Board Mill. Two tours. Good wages. Address, Box 5335, care Paper Trade Journal. A-24

WANTED—Experienced Machine Tender for a two cylinder sixty inch machine making rope and kraft. Good steady mill. Address, Superintendent, Tarentum Paper Mills, Tarentum, Pa. A-24

WANTED—By Import and Domestic Paper Jobbers, located in Toronto, agencies for high grade paper products. Address, Box 5278, care Paper Trade Journal. A-24

WANTED: Chief engineer to take charge of Boiler House, Steam Engines, and all Electrical Maintenance in a paper mill. Address, Box 5317, care Paper Trade Journal. A-24

WANTED: Good, sober, steady machine tender for Container Board Mill. Two tours. Good wages. Address, Box 5332, care Paper Trade Journal. A-24

FOREMAN WANTED to take charge of De-Inking Plant. Please state qualifications in first letter, salary desired, etc. Married man preferred. Address, Box 5334, care Paper Trade Journal. A-24

SITUATIONS WANTED

WANTED: By a New York Manager and Representative of an out of town Manufacturer of Toilet Paper and Paper Towels, similar connection with reputable manufacturer. Have been in the line over 20 years, over 15 years of which I have spent with my concern. Address, Box 5114, care Paper Trade Journal. A-24

WRAPPING PAPER MANUFACTURERS

Manufacturers' agent, located in New Orleans, permanently established, well and favorably known to the larger jobbers in Louisiana and Texas, desires to represent, on a commission basis, manufacturers of Wrapping Papers, No. 2 News, and both B. F. and W. F. Fibres. Address Box 5292, care Paper Trade Journal. A-24

SITUATIONS WANTED

GRADUATE MECHANICAL ENGINEER: 24 years old, married. 3½ years in Drafting Room. 1 year estimating engineer on all repairs, new building and machine additions. At present employed. Would like a position as assistant to Mechanical Superintendent or as Engineer on erection job. Address, Box 5320, care Paper Trade Journal. A-24

POSITION WANTED—Sulphite Superintendent who is technical, practical and experienced producer of high grade bleached and unbleached pulps, using both quick and slow cook methods, desires position. Present employer must be given 30 days' notice. Address, Box 5337, care Paper Trade Journal. A-31

SITUATION WANTED—Experienced paper mill cost and general accountant, office manager, college education, capable installing costs with actual experience paper making. Best references. Salary secondary to advancement. Address, Box 5339, care Paper Trade Journal. A-24

SUPERINTENDENT—Twenty-five years' experience. Open for employment. Up-to-date all grades boards and cylinder papers. Good executive. Address, Box 5340, care Paper Trade Journal. A-31

SUPERINTENDENT open for position. Eighteen years' experience on bonds, ledgers and high grade papeterie. Good man on colors and can get results. Good references. Address, Box 5336, care Paper Trade Journal. A-31

WANTED POSITION as Night Superintendent or Tour Boss, will accept Machine tender, married, steady, experienced on Test, Box Board, Specialties, Roofing and Straw. Best references. Address, Box 5342, care Paper Trade Journal. A-31

POSITION as draftsman or designer desired by Civil Engineer, Swede, 30 years of age, college graduate with one year railroad engineering, surveying; one year as laborer in sulphite and paper mill; two years as assistant superintendent at construction of a sulphite mill; half a year as assistant superintendent at reconstruction of a sulphite mill; two and a half years as draftsman and designer at a sulphite and paper mill and at same time superintendent for construction of big transport system for lumber; one and a half years as draftsman at a paper mill in America. Good draftsman and estimator of general building construction, including reinforced concrete, steel and modern timber structures. At present employed. Prefer position with good opportunities either at sulphite mill or by consulting engineer. Address, Box 5343, care Paper Trade Journal. A-31.

PRACTICAL PAPER MAKER desires a position with a board or specialty mill. Having had experience in both cylinder and fourdrinier mills in all departments. Have been doing engineering work in different mills for past four years. Experienced in construction and mechanical details. Address, Box 5233, care Paper Trade Journal. tf

ENGLAND

Gentleman going on business trip to London will be pleased to accept any commission to transact business for individuals or business firms.

Familiar with paper lines. American and Canadian references. Address, Box 5354, care Paper Trade Journal.

A-24

XUM

SITUATIONS WANTED

DO YOU sometime feel the need of a man to whom you can confidently turn over the important matters of your office, such as sales, correspondence, purchasing, management of the office, inside selling and the like. I am a young man, married, with both mill and jobbing experience. Address, Box 5352, care Paper Trade Journal.

SULPHITE SUPERINTENDENT, 20 years' practical and technical training, wishes to get in communication with Managers of Mills who want the best and are not getting it. Address, Box 5353, care Paper Trade Journal. O-5

EXPERT ON COLORS—Practical papermaker, 15 years' experience on various grades, also first class colorman with experience as demonstrator with largest color manufacturers, seeks position as assistant superintendent or in similar capacity. Address, Box 5361, care Paper Trade Journal. S-6

MAN 30, long experience in purchase of printing and paper for large corporation wishes connection with paper mill, or company in similar position where results count. Address, Box 5327, care Paper Trade Journal. A-31

MASTER MECHANIC with 12 years' paper mill experience wishes to make a change. A practical machinist and millwright, up in all Mill Repairs and not afraid of work. Best references. Address, Box 5324, care Paper Trade Journal. A-24

SALESMAN—Specialist on Coated Lithographic Papers and Boards; also Offset and Printing Papers, desires to connect with mill or dealers having mill connections. Can produce good business. Address, Box 5260, care Paper Trade Journal. A-24

YOUNG MAN: 20, ambitious, familiar with fine papers, Bristols, etc., wishes to connect with concern where good future awaits. Address, Box 5333, care Paper Trade Journal. A-24

WANTED—Position as Assistant Superintendent or Night Boss, by a man of experience on Book, Bond, Kraft and light weight papers; familiar with cylinder machines. Address, Box 5345, care Paper Trade Journal. A-31

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Flower City Tissue Mills Company
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Generator with exciter:
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75.2 Amperes per terminal
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Single Stage—Single Suction
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Max. Capacity—120 Gal. per min.
Henry H. Worthington
1 Fan Pump
8" Suction—6" Discharge
Nash Vacuum System
Complete for
3 Mould Board Machine (New)
Steel Pulleys
40" Face—108 Dia.—8½ Bore
20" Face— 76 Dia.—4⅝ Bore
2 Reeves Drives Complete
No. 1—Two Belts
Size 9, Class E, Range 4 to 1
No. 2—Two Belts
Size 8, Range 3 to 1
Extra Pair Cones
2—10 Plate Packard Screens
Size of plate 12 x 42
1 Revolving Expansion Reel
81" Wide, cuts 24 x 82"
Made by
Smith and Winchester
South Windham, Conn.
2 Forge Blowers
Buffalo Forge C—4—½ x 5—½ S-6

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1—Bird—Flat Plate, 1 knocker tailing screen with self cleaning attachment. This machine is new and has never been set up.

1—8" Stickle, horizontal exhaust steam oil separator. Made by Open Coil Heater & Purifier Co. New.

1—Paddle Beater Spiddle, iron paddle frames, lighter bars, stands, bearings, pulley complete. Iron paddle frames are 48" diameter 42" wide. Spindle is 15 feet feet long, 4 15/16" diameter. This equipment is new and never uncrated.

2—Nash-Hydo. Am. Compressors on cast iron base—730 R. P. M. No. 1387 Arranged for direct connection to constant speed motors.

1—Multiform Power Saw Table with jig saw attachment for printers use. Without motor. Made by Richards Saw and Die Co., Kalamazoo, Mich. In good condition.

1—Ammonia Refrigeration Plant, capacity 1½ ton complete, and in good condition. Made by New Process Refrigeration Machine Co., Detroit.

6—Lansing No. 3-2 wheel scrapers equipped with team poles. In good condition.

2—Manistee Water Pumps with base and motor. Pumps 6" suction, 6" discharge. Enclosed Bronze Impellors. Driven by 1 Westinghouse Motor. 50 H. P. 1755 R. P. M. 440 Volt, 60 Cycle A. C. Direct connected to pumps. In fair condition.

1—Direct connected direct current generator to steam reciprocating engine. Engine, The Brownell, No. 4975, size 11" x 12" generator, Sprague Electric Co., New York. Type S, 40 K. W. 240 Volt, 160 Amperes. 300 R. P. M. No. 71594. In good condition.

Various parts for J. H. Horne and Sons and Noble & Wood, Washer Cylinders. Detail, information and prices on request.

1—6 H. P. Bulldog. Horizontal Gasoline Engine complete with magneto, on skids. Made by Bates & Edmonds Motor Co., Lansing, Mich.

3—75 H. P. 440 V. - 60 cycle, 3 phase, Allis Chalmers Slip Ring Induction Motors, equipped with 2 pulleys each, size of pulleys 14" x 16". Complete with base, oil switches and drum controllers. Only used few months and are in perfect condition.

1—Motor Generator Set, comprising one G. E. Induction Motor, 75 H. P. 60 cycle, 3 phase, 440 volt, 1165 R. P. M. Full load. Generator:—G. E. 250 volt direct current 200 amperes. 50 K. W. Complete with base. This set is in perfect condition.

1—4½" Garden Steam Engine governor, used, in good condition.

1—5" Garden Steam Engine governor, used, in good condition.

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FOURDRINIER TISSUE MACHINE—One 68".
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PRESS PARTS FOR PAPER MACHINES—Pusey & Jones bell crank housing with rolls 18"x117". Black & Clawson swing arm housing.
DRYERS—Four 48"x111", thirteen 36"x95", one 36"x80", two 36"x73", four 48"x68", one 84"x67", eleven 42"x66", two 36"x48", four 20"x39".
CHILLED CALENDERS—One 86" six roll, one 82" five roll, one 66" five roll, one 54" five roll, two 58" five roll.
DILLON DOCTOR—For machine calender 60" to 120" face.
SLITTERS & WINDERS—One 120" Warren, one 108" Kidder, one 63" Langston, one 36" Kidder.
REELS—Pusey & Jones two drum, Rice Barton & Fales two drum.
BEATERS—Four N & W 72"x42", one Dilts 62"x50" iron tub, one Jones 62"x52", one Dillon 60"x48", two Emerson 54"x60", three Downingtown 54"x42" iron tub, two Emerson 53"x52", seven Horne 36"x36", two No. 2 Claflins, two No. 1 Claflins.
JORDANS—One Appleton Wagg Majestic, two No. 2 Dillon Improved, one large Horne, two Monarch, one Jones Standard, one Pope Brushing engine.
SCREENS—two 12 plate, five 10 plate, two 8 plate, open side Packer screens. Two 6 plate, one Moore & White auxiliary.
STUFF PUMPS—Deane triplex 9"x8", Goulds triplex 8"x10", Sandusky triplex 4"x6", Moore & White duplex 8"x12", two Noble & Wood self-contained single 6"x16".
REVOLVING SHEET CUTTERS—One 82" and 62" Clark, five 61" Hamblets, four 61" Finlays, one 50" Hamblet diagonal, one 42" Finlay.
REAM CUTTERS—One 48" Acme, one 45" Holyoke Seybold.
SUPER CALENDERS—One 52" Holyoke, one 45", one 42", one 36".
WET MACHINES—Four 72" Bagley & Sewall hydraulic, one 52".
ROTARY BOILERS—Two 8'x20' nearly new.
One Manistee Hog Chipper.
We have a large number of pumps and over five hundred calender, press, and couch rolls in stock.

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EXPERIENCED PAPER MAN. Have recently disposed of my business. Seek entry into the field again as jobber, broker or executive; Coarse or Fine. Fifteen years as jobber. Mill experience in wrappings. Experience covers financing, sales, buying, etc. Would invest in a new house or buy interest in an old one or accept salary. To any mill making standard line or specialties, not represented in Chicago, would like to hear from you. Would put in a stock or operate as a broker. If you don't care to make yourself known, write through your attorney. To any salesman who can produce, desiring to go into business, will organize and finance. Address, Box 5302, care Paper Trade Journal. A-24

POSITION WANTED as machine tender, experienced on Manila, News, Hanging and high grade Tissue. Fourdrinier cylinders, Harper machines. Address, Box 5325, care Paper Trade Journal A-24

FOR SALE

FOR SALE—One No. 2 Lannoye Pulper with internal gear drive. In first class condition. Manufactured by Rice, Barton & Fales. Two standard pneumatic Improved saves-alls. Design No. 6 equipped with No. 1 blower. Brand new. Address, Box 5355, care Paper Trade Journal. A-24

FOR SALE—Kidder press 36 x 48", two color rotary roll product press, never used. Will consider trade for new 30" press. Address, Box 5356, care Paper Trade Journal. A-31

FOR SALE—1 small Jordan Engine. 6 Farnum Drives. Complete Triple-Deck frames for 44 dryers. Will arrange terms to suit. Chesapeake Paper Board Co., Baltimore, Maryland. tf

MACHINERY WANTED—Waste Paper Baler, (Ohio) only will buy at right price if in good condition. Address, Box 5357, care Paper Trade Journal. A-24

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WANT TO BUY for drop shipment, direct from Mills, All tissue Cull of Toilet Paper, Side Runs of News, Kraft Wrapping 25 lb. up, No. 1 White Sulphite 25 lb. up, M. G. White 20 lb. up, Toilet Paper of all kinds and Parchment Paper 20 lb. up. Direct dealing only. No answer to agents. Address, "Young Selling Organization," P. O. Box 871, Norfolk, Va. A-31

WANTED—Left Hand small Jordan. Horne preferred. State condition, price, when and where. Address, Box 5359, care Paper Trade Journal. A-24

WANTED—Small right hand beater cheap. Muir Board Co., Inc., Lyndell, Pa. A-24

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One 48 inch, one 56 inch Cylinder Machines, trimming 40 and 48 inches respectively. And one 76 inch Harper Fourdrinier, trimming 64 inches. Two 1200 lb., one 1000 lb., three 800 lb., and one 500 lb. Beaters, one 1000 lb. Washer, Jordan Engines, three Rag Cutters, Dusters, one 6000 lb., and one 4500 lb. Rotary Digesters, Paper Cutters, Stitchers, Trimmers, Baling Presses, Scales, Steam Engines, Boilers, Shafting, Belting, and complete equipments throughout. All in good condition and no reasonable offers will be refused.

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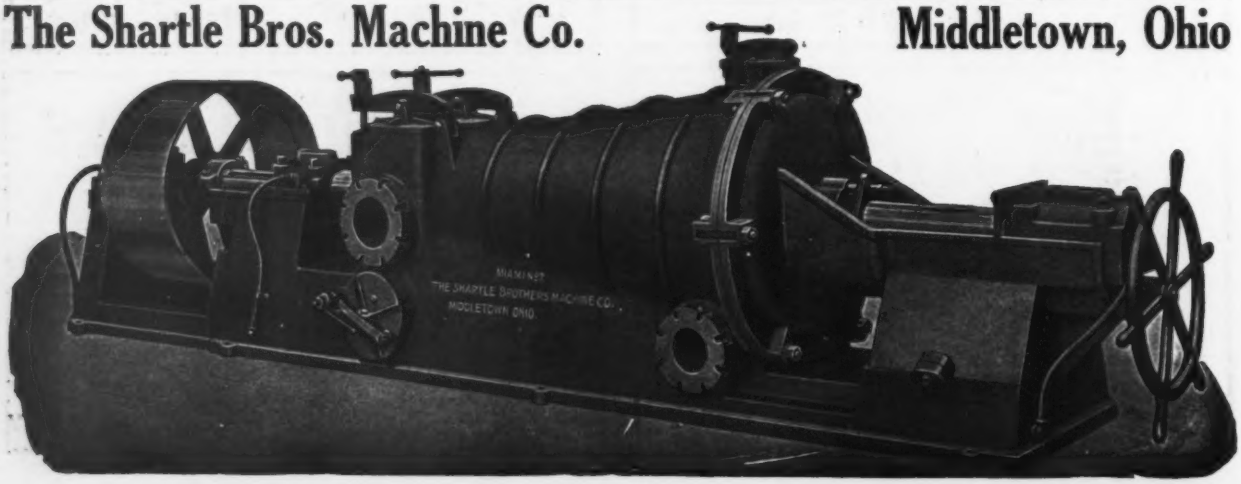

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Dealers in Wayagamack Kraft Pulp
Howard Smith Paper Mills, Montreal, Canada

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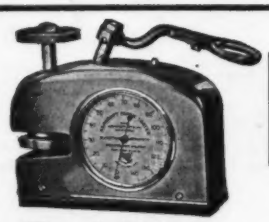

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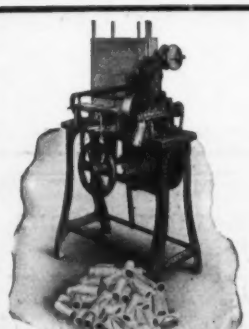

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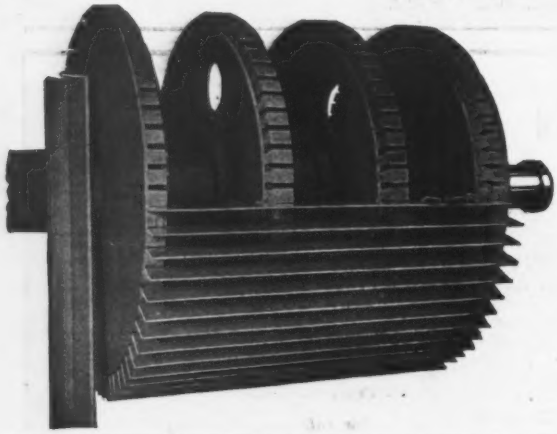

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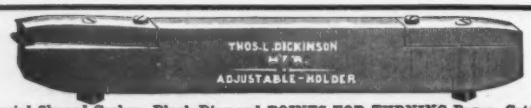

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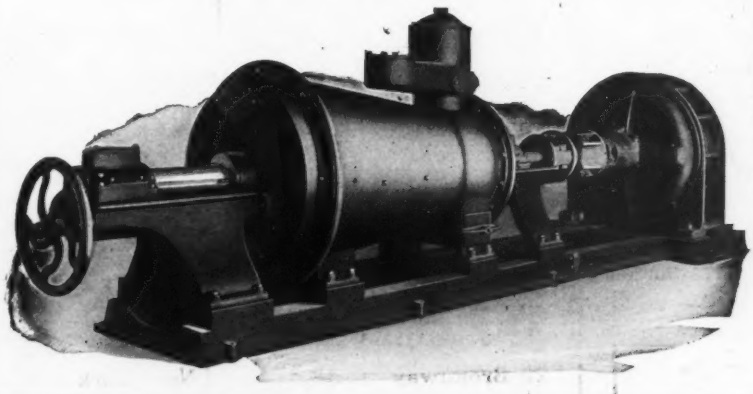

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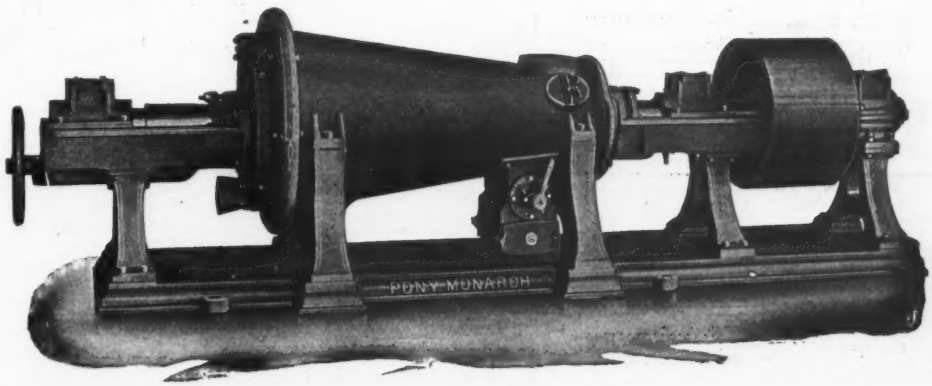

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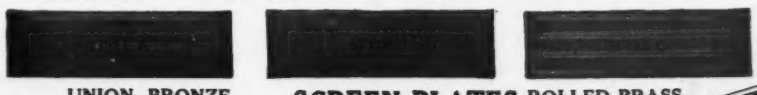

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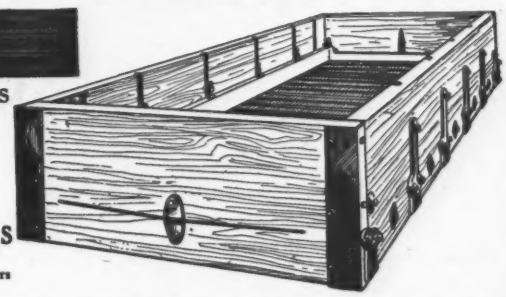

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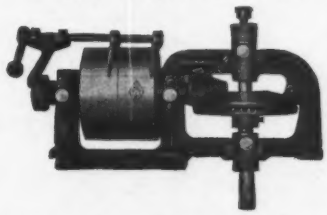

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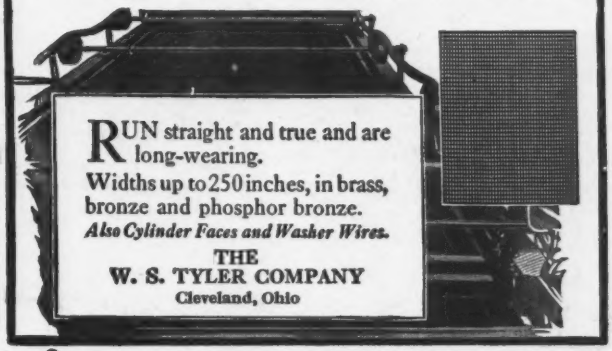

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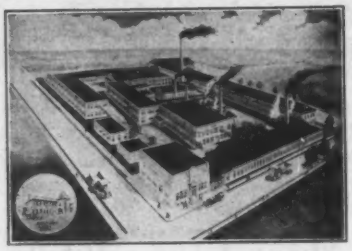

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